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# Sight Saving Classes Cleveland Public Schools

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## INTRODUCTION

Sight saving classes were organized to take care of children who could not see enough to be educated with pupils of normal sight or who by so doing would seriously injure their eyes. For many years those pupils who were obviously having difficulty with seeing were sent to institutions for the blind; but many others whose defects were not so apparent struggled along getting only a portion of their school work and that at considerable cost to their already poor sight. Many of those who were sent to institutions were constantly trying to read the raised dots with their eyes instead of with their fingers. This practice was recognized as being more disastrous than reading print. It was as a solution of these difficulties that sight saving classes were established.

While visiting London in 1909 Mr. E. E. Allen, Superintendent of Perkins Institution for the Blind at Watertown, Massachusetts, became interested in the myope classes which had been established by Dr. N. Bishop Harman. From these classes Mr. Allen gained an idea which, it seemed to him, might solve the problem of the semi-sighted child in the institution for blind. He hoped to send into the public school system those children who, because of too much sight, ought not to attend schools for blind children and who, as a result, were classified as blind educationally, socially, and industrially.

Through Mr. Allen's interest and the financial as-

sistance of Perkins Institution the pioneer "semi-sighted" class was opened in Roxbury, Massachusetts, in April, 1913.

Two years earlier, in 1911, pupils having considerable vision in classes for the blind in Cleveland were permitted to use the blackboard and ink print books with the consent of the school oculist. In the fall of 1913, the Cleveland Board of Education opened the first sight saving class in Ohio, under the supervision of Mr. R. B. Irwin. It was as a result of the accomplishment of this class that sight saving was put on a firm educational basis in Ohio. The economic value of sight saving classes has been demonstrated so clearly that these classes have sprung up with amazing rapidity.

In October, 1925, the following Ohio cities had established sight saving classes:

<i>No. of</i>		<i>Braille</i>	<i>No. of</i>		<i>Braille</i>
<i>City</i>	<i>Sight Saving</i>		<i>City</i>	<i>Sight Saving</i>	
	<i>Classes</i>	<i>Classes</i>		<i>Classes</i>	<i>Classes</i>
Cleveland .....	19	3	Mansfield .....	1	..
Cincinnati .....	6	1	Warren .....	1	..
Toledo .....	3	1	Middletown .....	1	..
Columbus .....	1	..	Sandusky .....	1	..
Akron .....	1	..	Ashtabula .....	1	..
Dayton .....	2	..	Alliance .....	1	..
Youngstown .....	3	1	Norwalk .....	1	..
Springfield .....	1	..	East Youngstown...	1	..
Lima .....	1	..	Cleveland Heights..	1	..
Hamilton .....	1	..		—	
Lorain .....	1	..	Total .....	48	

According to figures given out in November, 1925, by the National Committee for the Prevention of Blindness there are about 220 sight saving classes in the United States.



The following is a list of cities having sight saving classes as compiled by the same agency:

California	Long Beach, Los Angeles, San Francisco.
Connecticut	Farmington, New Britain.
Illinois	Chicago.
Louisiana	New Orleans.
Massachusetts	Boston, Brockton, Cambridge, Chelsea, Fall River, Holyoke, Lowell, Lynn, New Bedford, Newton, Salem, Somerville, Worcester.
Michigan	Detroit, Grand Rapids, Highland Park, Jackson.
Minnesota	Duluth, Minneapolis, St. Paul, South St. Paul.
Missouri	St. Louis.
New Jersey	Jersey City, Newark, Paterson.
New York	Albany, Buffalo, New York City, Rochester, Syracuse.
Ohio	Akron, Alliance, Ashtabula, Cincinnati, Cleveland, Columbus, Dayton, Hamilton, Lorain, Mansfield, Middletown, Norwalk, Portsmouth, Sandusky, Toledo, Warren, Youngstown, East Youngstown, Cleveland Heights.
Oklahoma	Tulsa.
Pennsylvania	Philadelphia, Pittsburg.
Washington	Seattle, Tacoma.
Wisconsin	Milwaukee, Racine.

Cleveland can now look back over twelve years of sight saving class progress. It can trace in this work a development characterized by a constant program of constructive activity, a program which would have been impossible of realization without the splendidly adequate sight saving legislation adopted in recent years by the state of Ohio and the sympathetic support of the sight saving idea by the educational and medical forces of the community.

In this short period sight saving classes in Cleveland have passed through their pioneer period. Today they are conducted along lines which, while not by any means inflexible, have approached something like a standardization based on careful study of the efficacy of various methods and devices tried during this period of experimentation. It is the aim of this booklet to set forth briefly such methods and devices as have been found of greatest value.

“A little girl once cried and cried because she had to go into the Sight Saving Class. Now she likes it so well. What a change!”

—From a 2B Composition.

# Sight Saving Classes

## Cleveland Public Schools

A sight saving class is a group of children who have some defect of sight which makes it impossible for them to secure an education through use of the same educational tools and methods and under the same physical conditions as children with normal sight.

In order to educate these pupils without further injury to their eyes and without the danger of retardation because of low vision, they are placed in the care of a special teacher. This teacher should have a knowledge of eye diseases and how they are treated; should follow the recommendations of the consulting oculist in regard to the amount of eye work for each individual child; and should know how to adapt educational material to the needs of these pupils. That they may not be robbed of the opportunity of competing socially and educationally with other children of normal sight, these pupils are sent to the classroom of the grade in which they are enrolled for oral work.

### *Threefold Aim*

The aim of sight saving classes is threefold: first, to educate pupils with the least possible eyestrain; second, to teach them enough eye hygiene to conserve

the vision they have; third, to provide such vocational guidance as will prevent them from choosing occupations which would be injurious to their eyes.

## ADMISSION STANDARDS

The following standards of admission are given as a guide in determining the eligibility of a candidate for Cleveland sight saving classes:

1. Children who cannot read more than 6/24 at distance and who cannot read 2.00 at 20 c.m.
2. Myopes who have more than eight diopters of myopia.
3. Children who have progressive myopia.
4. Hyperopes who have symptoms of asthenopia and who have more than five diopters of myopia.
5. Children who have an astigmatism of more than 3.5 diopters and whose vision cannot be brought up to more than 6/24.
6. Children with maculae, nebulae, leucomae, which interfere with sight and lead to eye-strain.
7. Cases of keratitis. In the interstitial type, if the vision remains low after the eye has been quiet for three months, or in persistent recurrent conditions while under treatment.
8. Children having congenital cataracts, or secondary cataracts where no acute condition is present, with vision 6/15 or less.
9. Children having congenital malformations, where the vision is 6/21 or less.
10. All cases having a chronic disease of the fundus, where the vision is 6/12 or less.

Note. It is assumed that these conditions exist after the proper refractions have been made.

These standards cannot be rigidly followed as each child must be given individual consideration.

## FINANCIAL SUPPORT

Legislation covering the establishment, financial support, and conduct of sight saving classes may be found in Sections 7755, 7755-1, 7755-2, 7755-5, 7757, 7758,

7759, 7760, 7761, 7763-5 of the School Laws of the State of Ohio.

### *Local Pupils*

The Ohio State Department of Public Education is authorized by law to reimburse boards of education conducting sight saving classes in an amount not to exceed \$375 for nine months and proportionate amounts for more or less than nine months, for each child over and above the cost of instructing a child of normal needs in the same school grades of the district.

### *Tuition Pupils*

Frequently children outside of the school district are enrolled in a sight saving class. Upon the direction of the director of education, their tuition may be paid by the board of education of the district in which they reside. The transportation of such pupils may also be paid by the district in which they reside or it may be provided by the board of education of the district in which the class is located.

### *Boarding Pupils*

Pupils from outside the school district may be boarded in the school district where the sight saving class is located. These pupils are boarded under standards and restrictions prescribed by the director of education. An amount not to exceed \$250 for each child boarded for nine months during the school year and a proportionate amount for each person boarded more or less than nine months may be paid.

## MENTAL TESTS

The Stanford revision of the Binet test is found to be practicable for use with the sight saving pupils, especially as they are compared in their work with sighted pupils. These tests are given by a trained psychologist.

It is seldom practicable or valuable to allow the partially-sighted child to take the intelligence group tests with the sighted pupils because of the difficulties of print, time, and nerve strain. The results of such tests are almost always unjust to the partially-sighted child.

To determine accurately the I. Q. of a partially-sighted child, it is desirable to test him two years in succession, for his visual handicap has not only deprived him of normal training before entering school, but also prevented him in the regular grades from assimilating knowledge as rapidly as sighted children. Thus the first test often gives a mental picture resembling dullness.

The standard of admission to the sight saving class in Cleveland is 70% I. Q. and above.

## SIZE\* AND TYPES OF CLASSES

In Cleveland the increasing number of pupils enrolled in sight saving classes has made it possible to group them so that the teachers do not have a great variety of grades, and can therefore carry the maximum

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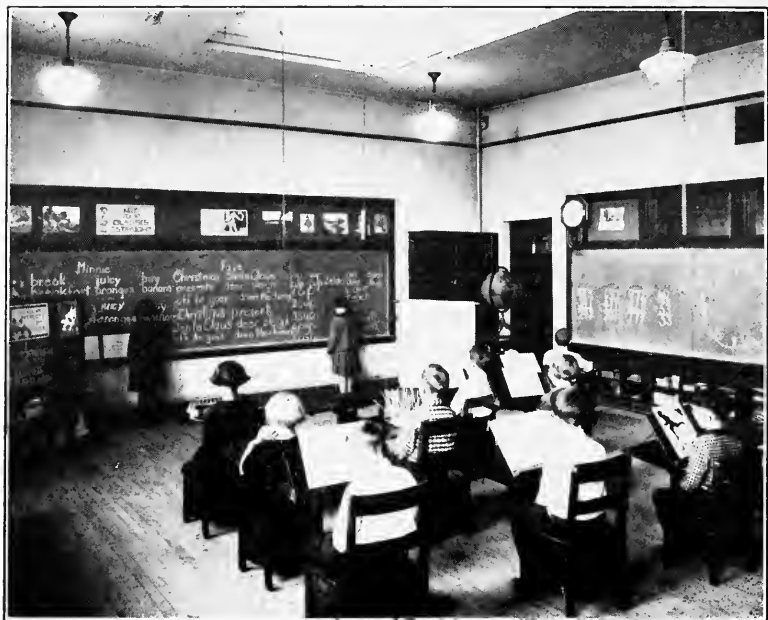
\*Note: In accordance with Section 7761 of the General Code of Ohio the State Department of Education compiles standard requirements concerning the organization and conduct of sight saving classes. Copies of these are issued by the State Department of Education, Columbus, Ohio.

enrollment, a condition which is not always possible in cities having fewer classes. In some centers first, second, and third grades are enrolled, in others fourth, fifth, and sixth grades. The junior high pupils in seventh, eighth, and ninth grades are enrolled in separate classes in junior high school buildings. In centers which are in the more remote ends of the city, it is still necessary for one teacher to have more grades, and for the pupils to remain in that center as they are promoted.

A further classification has been made on the basis of eye defects. The two groups so formed include:

- a. Static and low vision cases.
- b. Progressive myopic cases.

In group "a", the low vision classes, are the pupils whose eye condition will probably remain more or less stationary, but who are unable to do work under the usual school conditions. Pupils who have enough vision are permitted to read ordinary print in the sight saving room for short periods each day. This should be done only under the most favorable conditions of artificial and natural light and the teacher should watch for any signs of eye and nerve strain. These pupils thus train their vision just as a pupil in a gymnasium trains and strengthens the muscles of the body. The amount of eye work done by these pupils is determined by the school oculist who visits the sight saving classes frequently.



Various activities and many items of equipment are shown in this picture. Three different grades are enrolled in this class.

In group "b," the myopic classes, are pupils with progressive high myopia, and a few others whose eye condition may grow worse under ordinary educational methods. These cases are recommended for especially careful treatment. Static cases are as a rule more apparent to the layman and consequently more easily detected than progressive cases. Thoroughness on the part of the medical department is indicated when the percentage of myopes in sight saving classes increases as it has done in Cleveland in the past few years. These classes are truly "sight saving" when they are caring for children who are suffering from progressive myopia.



## EQUIPMENT OF CLASSES

### *Selection of a Building*

In selecting a building in which a sight saving class is to be located the chief requirements are that it should be a modern building with good natural lighting, and that it should have all the grades to which sight saving pupils in that class will go for oral recitations. The next requirement is that it be accessible by trolley.

### *Selection of a Room*

According to the state's standard requirements the room selected should be of average size, with north or northeast light if possible; in any event it should have an exposure giving the least amount of direct sunlight, with no glaring roofs or adjacent walls. For first grades it is desirable to have a room on the first floor, and for all grades it is best to have one centrally located if at the same time it is possible to meet all other requirements.

### *Natural Lighting*

In modern school buildings the problem of natural lighting is very well taken care of. However, no room should ever be used for sight saving classes with windows so arranged that pupils must face the light. Unilateral lighting with the light at the left of the pupils is preferable. All glare should be eliminated.

### *Artificial Lighting*

Sight saving class rooms should be equipped with scientifically planned electric light systems.

In general, the rooms should be well lighted, the lamps shaded to prevent glare, the arrangement of the lights such that all parts of the room receive the same amount of light in order to avoid dark shadows and the contrast of dark and light; the fixtures hung as nearly as possible out of the students' range of vision.

The factors which must be considered in planning the lighting of a classroom are: (1) the amount of light desired at the work plane, measured in foot candles; (2) the area and height of the room; (3) the height of the work plane from the floor; (4) the distance of the unit from the ceiling; (5) the size and number of lamps to be used; (6) the color of walls and ceiling with their reflecting factors; (7) the kind of lighting system to be used; (8) the type of lighting unit.

In particular, the amount of light at the work plane should be from 10 to 14 foot candles, preferably 14.

Semi-indirect fixtures may be used, but totally indirect are ideal.

The lamp used in each lighting unit should be of the 200 watt variety. If more light is desired, the spacing of the units should be reduced, as it is better to have more lamps of less wattage than few lamps of great wattage.

With the semi-indirect and especially with the totally indirect system, the ceiling must be white and the walls cream colored, buff, French gray, or light olive green to act as a reflector to the light.

If the semi-indirect lighting system be used, the

lamps must be hung well out of the pupils' vision. The lighting unit should be hung not less than 10 feet from the floor, and preferably  $12\frac{1}{2}$  feet.

In the style of system required for the sight saving class, and in a room of ordinary height, the lighting unit should be hung at least 10 feet from the work plane; there should be at least 15 feet between the outlets; the outlets should be no more than 5 feet from the side wall; there should be  $2\frac{1}{2}$  feet from the ceiling to the top of the reflector.

The bowls should be cleaned once every six weeks, and the bulbs renewed at frequent intervals.

### *Decoration of Walls and Ceilings*

Walls of sight saving classrooms should be painted light buff with ceilings of light cream. All walls and ceilings, wood work, and furniture of sight saving classrooms must be finished with a dull matt surface. Walls and ceilings should be cleaned and redecorated often as a large percentage of light is absorbed when the walls become dark with smoke and dirt. Special care should be taken of the ceilings in rooms equipped with a totally indirect system of lighting.

### *Window Shades*

There should be two shades for each window, placed in the middle so that shades may be raised and lowered from the middle. Shades should

- (a) diffuse direct sunlight
- (b) control illumination
- (c) eliminate glare from the visible sky
- (d) eliminate glare from the blackboards.

These shades should be of a neutral yellow-colored material that will transmit enough light while at the same time diffusing it. As the mixture of daylight and artificial light is not satisfactory unless the latter is derived from lamps designed with reference to daylight lighting, it is often desirable to draw the shade and to use artificial light exclusively.

### *Blackboards*

Sight saving classrooms should be equipped with the same amount of blackboard space as is found in a regular grade room. Blackboards are in constant use in sight saving classes and must be kept in good condition. Because of the soft chalk used, it is necessary to wash the boards very often. Blackboards which are becoming gray should be resurfaced, for grayness diminishes the contrast between the board and the whiteness of the chalk, and in the same proportion lowers the visibility of the writing. Teachers should report the condition of the boards to the supervisor each spring.

### *Sink*

Each sight saving classroom should have a sink with running hot and cold water. It should be equipped with a pipe stopper which will screw in. This stopper should be high enough so that when the sink is about four-fifths full the water will flow down the hollow stopper. In this way water may be held in the sink for soaking reed baskets with no danger of the water overflowing.

## *Movable Equipment*

Sight saving classrooms should be equipped with an adequate supply of movable, adjustable desks. A desk similar to the Rowles Study Desk is unusually well adapted for sight saving classes. The top of the desk tilts back to form a book rack which is very useful for holding the large clear type books. Other equipment includes:

- 1 teacher's desk.
- 1 teacher's chair.
- 1 table for lunches and manual training work. Dimensions about 10 feet by 3 feet with 3 drawers on each side.
- 12 chairs, (not cane-seated) to be used at the large table.
- 1 kindergarten table and an adequate number of kindergarten chairs for classes having grades below the fourth.
- 1 sand table for classes having pupils in the fourth grade and below.

Cupboards—Sight saving classes should be equipped with an adequate amount of cupboard and storage space. Part of the space should be made into pigeon holes approximately 12 inches by 9 inches and 6 inches high for storing clear type books. If books are kept in these pigeon holes and properly labeled much time in hunting books will be saved by both teacher and pupils. Where wall space is too limited to permit a sufficient amount of cupboard space, cupboards may be built under the windows.

## *Educational Equipment*

The following paragraphs suggest the equipment which has been found essential and desirable in the conduct of sight saving classes. It should always be borne in mind that this is subject to change, replacement, and improvement as the work develops and school requirements change.

## *Clear Type Books\**

Books to be read by pupils with partial sight must have a clear bold type printed on a dull surface, large enough for myopes but not too large for pupils with a limited span of vision. The type which has seemed most nearly to meet all requirements over a period of several years of use, and which has ranked high in a series of legibility tests, is 24 point Caslon Bold with special letter spacing. A dull finish ink is used on a soft, dull-surfaced, cream-colored paper.

Clear type books, as they are called, are much more expensive than ordinary text books. They represent a very important part of the equipment of a sight saving class. The material to be reprinted in clear type form is selected by an editorial committee of teachers and supervisors of sight saving classes from various parts of the United States. Publishers have been very generous in permitting copies of the best text books used in regular classrooms to be reprinted for the use of these children, who would be forced to read with their fingers or have everything read to them if deprived of these books. An effort has been made to put only the best and most up-to-date material into these books. A limited amount of material is reproduced in clear type each year. As a result of this printing program, covering a period of over ten years, there is now a fairly adequate supply of printed material which these pupils with partial sight can read.

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\*Note: The list of clear type books and the prices may be obtained from the Clear Type Publishing Committee, 36 Elston Road, Upper Montclair, N. J.

For the past year or two it has been found that teachers are able to care for more pupils than they could ten years ago because of the amount of material which pupils may now read for themselves. In former years almost everything had to be either read aloud or copied in large writing by the teacher. In the future, as the library of clear type books becomes more complete, it may be possible to increase still more the enrolment of these classes.

### *Maps, Globes, and Charts*

The maps selected should have broad black outlines, a minimum of printing, and should be colored in such a way as to produce strong contrasts. Commercial maps suitable for use in sight saving classes are difficult to find. Certain educational supply houses carry outline desk maps which are excellent as patterns and may be used to transfer the map to holland cream shadecloth. This makes a large desk map which is quite permanent, as the shadecloth sheds dirt and does not tear so easily as paper. Or these maps may be used as they are if all the lines are gone over with a brush or heavy pen and India ink.

Any globe may be used if painted over according to directions given under Geography, page 31.

Hart's History Aid (10 maps). Very useful.

The following list of charts is given for the information of the teacher who wishes to use them in connection with eye hygiene in upper grades:

No. 901 Gervais Chart.

No. 906 Dr. Parent's Chart.

No. 908 Chart of Muscles.

No. 910 Chart of Normal Eye.

No. 911 Chart of Visual Defects.

These charts may be remounted to eliminate the small type. Some of them should have the small type covered to adapt them to sight saving classes.

### *Reading Charts*

Several good reading charts and sets of phonetic cards for first and second grade are desirable. It is best to purchase the phonetic cards belonging to the reading method taught in the system in which the class is located. Extra charts may be used for supplementary reading or drill in first or second grade.

### *Paper*

Manila drawing paper, size 12x18.

Bradley "Tech" or Bradley Cream Drawing Paper, size 12x18.

Unprinted newspaper.

Sight saving tablets. (These may be used for pencil and ink writing.)

Specification:

Size: 9x12—50 sheets to the pad. Lines long or short way, or unruled.

Paper: No. 60 India Egg Shell Ticonderoga.

Cover: No. 80 Scarlet-Backs. No. 70 Chip Board.



## *Pencils*

Eagle Beginners No. 773.

Eagle Auditor No. 285.

Eagle Veriblack No. 315.

Eagle Alpha No. 245.

Faber Editor V. S. No. 1 (for junior high pupils).

## *Pen and Ink*

Pens: Speedball 4A, 4B, and 4C.

Ink: Mixture of school and India ink.

## *Chalk*

Any soft chalk making an even, broad white line may be used. Carloader's Chalk No. 888 is especially recommended for lower grades and new pupils. The large size of this chalk is conducive to sight saving writing.

## *Typewriter and Stand\**

Any typewriter with a standard keyboard which may be set with type of large size may be used. It is desirable to have the rows of keys made blank.

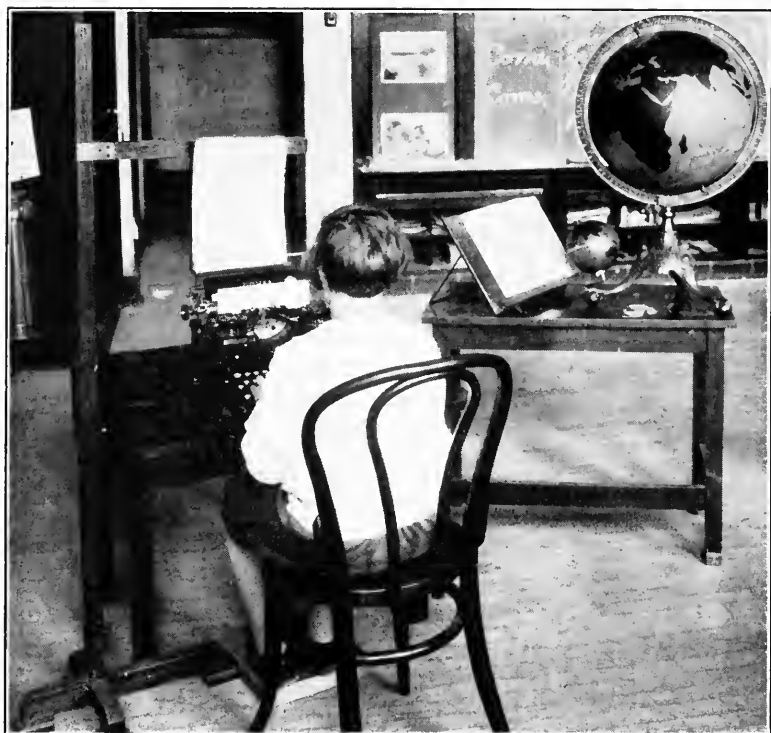
Typewriter tables may be made by manual training departments or a regulation typewriter table with one drawer may be used.

## *Copy Holder\**

A copy holder which will be adjustable with regard to distance from floor, distance from operator, and which does not vibrate, is necessary. These are quite simple if made to stand on the floor and may be supplied by regular manual training departments.

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\*See picture, page 24.



Special sight saving equipment, copy holder, large type typewriter, book rack, globes.

### *Book Racks*

The desk tops do not offer proper adjustments for all pupils. Adjustable book racks to be used on the tops of the pupils' desks to hold the large type books in an upright position may also be made by the manual training department. These are especially recommended for use by myopes.

### *Posters*

It is difficult to find pictures suitable for sight saving classes. The following posters have been found satis-

factory. Many of them have very attractive coloring and are of educational value:

Home and Fairy Tale Series.	Hygiene for School Children.
National Holiday Series.	How to Sit.
	Care of the Eyes.
The A-1 American Girl Series.	Books and Children Series.
No. 4. The A-1 American Girl	No. 1. Reading Aloud.
Has Good Eyes.	
Health Posters.	Posters of Animal Life, No. 1290.
Rainbow Rhymes.	
More Mother Goose Health	Built-Up Posters*
Rhymes.	Child Life.
Babes in Health Land.	Birds.
No. 8. Night Air.	Flowers.
Children from Many Land.	*These are to be made by the
Christian Citizenship Training.	teacher. They add a touch of bright
No. 23. Friendship and Social Life.	color to the room.

### *Seat Work*

Some educational supply houses carry the following material in suitable type for sight saving class use:

Fables in Silhouettes.	Number Cards.
Silent Reading Seat Work.	Self-Teaching Number Cards.

### *Handwork Materials*

Blunt pointed scissors.

Crayons.

Kindergarten punch.

Printing outfit. Letters 1½ inches.

Colored paper for making torn or freehand cutting posters, etc.

Plasticene for modeling.

Wooden toys. If wooden toys are to be made the following equipment is helpful:

Coping saw frames with blades.

Sloyd knife.

Sandpaper.

Hammer.

Nails.

Paint.

Wood. Children may bring old cigar boxes or orange crates where advisable.

Manual training table with vise and coping saw rack.

Cotton Roving.

Large aluminum crochet hook. Used for making large crochet rugs of cotton roving or rags.

Knitting frames. Circular 15 inches in diameter. Caps and scarves which the children can wear may be made on these frames. The knitting is done with the fingers.

A supply of yarn of various colors.

Straight Line Cut-Outs. Many of these may be used as patterns for wooden toys.

A supply of crepe paper in various colors. Many attractive articles may be made from this paper. Children love to work with color. Flower candlesticks and flowers dipped in wax are very pretty, as are many other paper novelties which these children can make.

A printing frame, such as is used in making kodak prints, may be used for making silhouettes from pressed flowers, leaves or cut-outs on blue print paper.

Basket-making materials.

### *Piano*

A piano is an essential part of sight saving classroom equipment where rhythm and instrumental lessons are given.

### *Phonograph*

A phonograph is a desirable part of equipment in teaching music appreciation and especially desirable in classes having no piano.

## *Equipment for Serving Lunches*

The following equipment is desirable for classes serving lunches to pupils:

Individual 9 in. plates, pint bowls, teaspoons, soup spoons, tumblers.  
1 each sugar bowl, can opener, 1 quart pitcher, 3 quart saucepan,  
2 quart double boiler, bread knife, cooking spoon, dish drainer.  
2 each salt shakers, table spoons, vegetable knives, large dish pans.  
Tea towels.

## EDUCATIONAL PROGRAM

### *Schedule for Elementary Grades*

In sight saving classes the daily work begins a half hour earlier at both morning and afternoon sessions than in regular classrooms. It is necessary to have a longer school day for these pupils for the following reasons:

a. Written work is done more slowly.

b. Home work is not permitted except in special cases.

c. Frequent rest periods are essential.

This plan also gives the teacher an opportunity to teach some of the extra subjects such as eye hygiene, music, typewriting, and handwork. These children are given more freedom about the room than other pupils and the longer hours are not a hardship, but rather an advantage, since pressure to do the assigned work in a hurry is absent.

### *Luncheon*

As sight saving pupils usually come from a distance, it is not practicable for them to go home, and luncheon should be served in the special room. For this the

pupils bring sandwiches and fruit, which are supplemented by one hot dish furnished by the school.

As children in these classes often have a history of physical weakness which is the underlying cause of the vision defect, the luncheon period is a good time to emphasize good health habits. One of the first is cleanliness, concretely emphasized by making the children clean up before they eat. Another health habit which may be tactfully demonstrated is proper habits of eating. Nutrition may come in for its share of attention in connection with the luncheon hour. Table manners, which some children will never learn in any other way, may be taught concretely at this time.

### *Morning Exercises*

Morning exercises in recitation rooms should be attended by all sight saving pupils.

### *Arithmetic*

First grade pupils in sight saving classes should get the number work with the pupils of the regular classroom because the child of six needs the social stimulus of the larger group. In most first grades the number work will be purely incidental, but there are certain facts which the child should know before he is ready for second grade. The sight saving teacher must keep posted on the requirements in order to check the work done by the pupils and to be certain that a proper basis for the following year's work has been established. Most of the devices which would be psychologically and physiologically suited for use in a regular first

grade classroom are satisfactory for sight saving use. One exception is the flash card drill on the number combinations.

In grades above the first much of the arithmetic must be given to the sight saving pupils by the special teacher. Some teachers believe that sight saving pupils should be present for classroom drills in arithmetic. This would seem the ideal plan, as competition with others in such work makes for more speed and more speed indicates greater accuracy, but there are drawbacks. In the first place the teacher of the regular class must frequently reduce the speed of her drill to let sight saving pupils have a longer or closer look at the card. This breaks up the enthusiasm and momentum of her drill. Moreover, in arithmetic drill with other pupils the sight saving pupils are rather conspicuous.

This is a problem which individual teachers will solve according to the varying factors bearing upon the situation.

The arithmetic drill should last only from three to five minutes. These drills should be frequent and short. There are times when, instead of using cards, the teacher can give the number combinations orally and thus save the pupils' eyes entirely.

The nature of the handicap of these pupils would make it seem necessary to think answers quickly and accurately whenever possible. It saves both eye and nerve strain. The need of this training is especially apparent in the upper grades. It is safe to conclude that in the sum total of arithmetic work for sight sav-

ing pupils the smaller amount of time should be spent on written arithmetic.

The matter of grading children is a problem which the sight saving teacher should be allowed to work out in the way which is for the child's best interest. The special teacher should keep in mind the fact that she lacks a proper basis of comparison in grading the pupils herself. She has no standard by which to judge as has the regular classroom teacher. The ideal way would be for the two teachers to decide on the grade together.

Sight saving pupils in all grades should be present at the explanation or presentation of all phases of arithmetic in the classroom whenever possible.

Pupils in sight saving classes should do all the arithmetic possible on the blackboard. However, care must be taken that pupils with inflammatory eye conditions do not come in contact with chalk dust. The teacher should erase the board for these pupils or the pupils should be provided with dustless erasers. When writing arithmetic on paper, unlined paper is ideal. There is a question about the effect of lines on the eye, but there is nothing about unlined paper that is harmful. The difficulty in using unlined paper is to get the children to write the figures large enough. For this reason it is well to use the ruled paper for arithmetic only often enough to serve as a guide or check for the size of the written figures.

Sight saving pupils should not be allowed to do any written arithmetic on paper in the grade room. There



are too many factors which are overlooked by a busy grade teacher, such as proper lighting, etc. No measuring should be done except under the supervision of the special teacher. No sight saving pupil should be present in grade rooms at flash drill on number combinations for reasons previously stated.

### *Geography*

Pupils in sight saving classes should attend geography recitations in the regular classroom. When topics are assigned to be looked up, sight saving pupils can find some material on almost every topic in the clear type books. In this kind of recitation pupils with normal sight depend upon what they hear in the class for a very large part of their information. Hence, sight saving pupils should greatly benefit because they are being trained to "let ears work for eyes." If the class is following a given text not the same as the clear type copy, the sight saving teacher should read the assignment to the pupil. The pupil should then supplement this by reading for himself any references on the subject which are available in clear type.

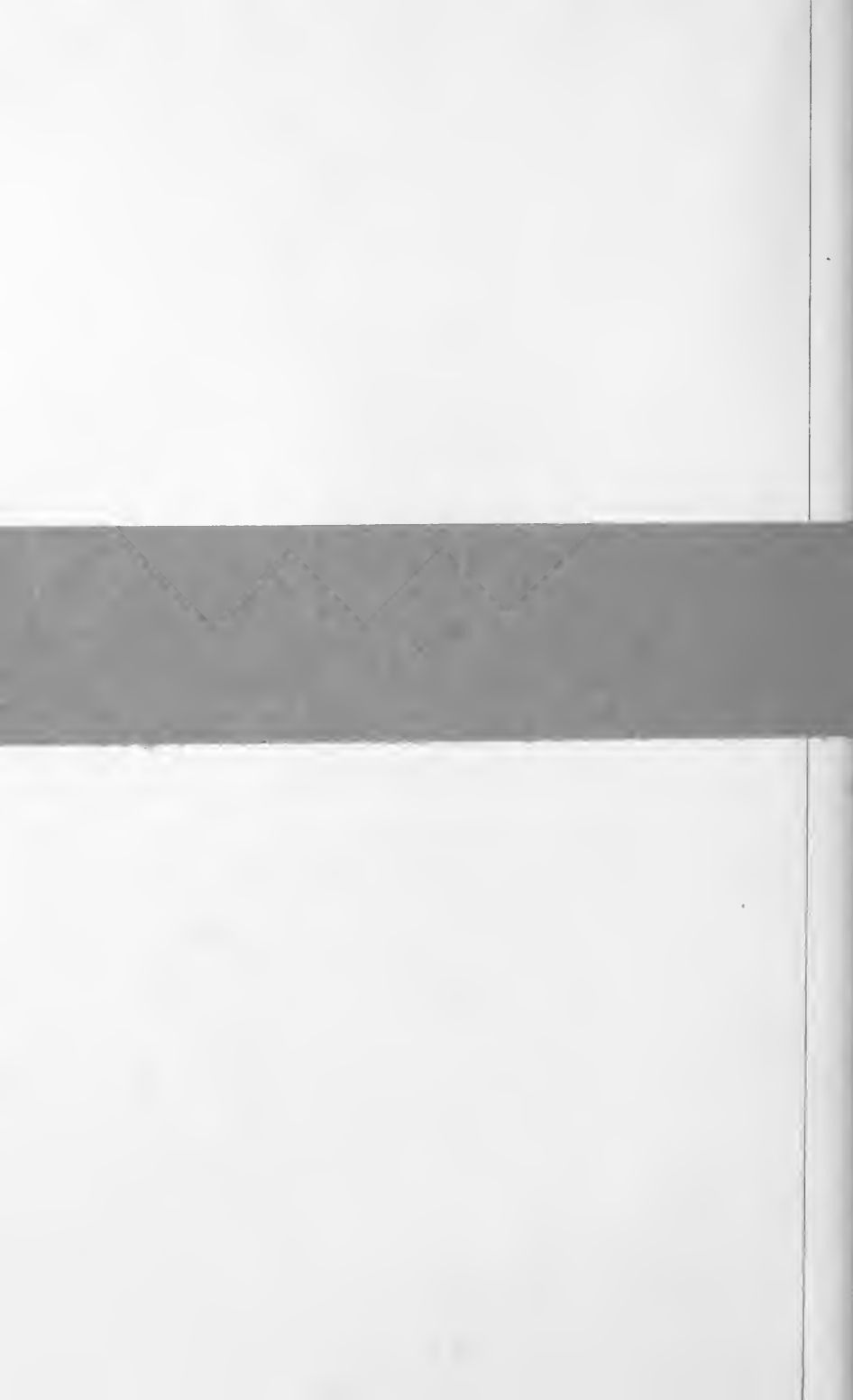
The map work presents the real problem in geography. It is very difficult to find commercial maps which these pupils may use with safety, comfort, and profit. A map to be suitable for sight saving use must be free from confusing detail, must present strong color contrasts, and must have clear, broad and distinct lines. Maps must be of convenient size.

One of the most satisfactory solutions has been for

the teacher to make a series of desk maps illustrating the necessary features as they are developed by the recitation teacher. These desk maps are taken by the pupil to class. The American series of maps, size 14x20, are excellent for patterns. They are about the size of the desk tops. If the outlines of these maps are transferred upon holland cream shadecloth very durable, attractive maps will be secured. The outlines should be retraced with a brush or speedball pen and black India ink. For coloring purposes crayon is the most satisfactory medium for shadecloth maps. In making maps of any kind it is desirable to make a contrast between land and water masses. Some of these pupils do not see well enough to make that distinction for themselves. Instead of putting many names on the maps, large figures may be used indicating cities, rivers, etc., and a key in large print made to go with it. This will help to reduce the detail on the map, and one map may be made to serve for more information. A map made on shadecloth will last for some time, as it will not tear as readily as paper.

In adapting globes for sight saving use, the most practical solution up to date has been to repaint any ordinary globe. The land masses are painted a dull flat black, the water a soft dull green. This makes a good contrast and has no glare if the right paint is used. Old globes that are too worn for use in regular classes may be made useful for sight saving classes in this manner. It has been found that for some pupils with a reduced eye span the small globes which they

To Mr. R. B. Irwin - with appreciation of all  
you have done to make this report possible.  
Cordially yours - Hazel C. Hadley



can hold in their hands are very useful. It is easier for these pupils to get the relation of one continent to another if the distance is not too great.

### *Nature Study*

Pupils should attend nature study in recitation rooms for full time. If note-book work is assigned, it should be done under the supervision of the special teacher in the sight saving classroom. Attractive nature study note-books may be made by pressing leaves, weeds, and wild flowers. These may be placed in a kodak printing frame upon a piece of blue print paper, cut to the proper size with the sensitized side up. This should be exposed to the sun until the paper turns blue. It should then be taken out,—washed in cold water and dried. These make very attractive silhouettes, white upon a dark blue background.

### *History*

Sight saving class pupils should attend history recitations full time in their grade classrooms. Where a history text is not like the clear type book, the assignment should be read to the pupils by the sight saving teacher. The pupils should supplement this by reading the clear type material on the topic assigned. Note-book work, if required, should be done under the supervision of the sight saving teacher.

### *Literature*

All the literature recitations which are oral may be attended full time by sight saving pupils. Poems to

be memorized should be copied in the approved sight saving manner by the special teacher if these poems are not available in clear type.

### *Reading*

All reading is taught in the sight saving class, using the clear type books. Since reading is the basal subject for the first three grades, it is of utmost importance to give the best possible training.

A first grade child in the class is often a problem for the sight saving teacher who is not trained for first grade work, especially if there are several groups of older children enrolled in the class.

Any of the reading manuals which belong to the primer, first or second readers in clear type may be followed, depending on the reading method followed by the school system in which the sight saving class is located.

Since there are so few clear type primers and first readers, the problem of finding sufficient reading material arises. Some suggestions for making the most of a meager amount of reading material follow:

- a. When children in the third grade have written a good language story, use this for supplementary reading for the first and second grade. This may inspire the older children to do excellent work in both composition and writing.

- b. In the third and fourth grades let the children read their stories silently and write out questions based

upon their reading. This is good occupation work while other pupils are having oral work.

c. The third or fourth grade child can occasionally read a reader belonging to a lower grade, and then write a list of questions based on the story.

d. The teacher can give these questions to the younger child reading in that particular book, have the child read the questions silently, and then read the story and give the answers orally. This will check the child's comprehension of the reading material and the questions, as well as his ability to give concise answers.

In the primary grades the same story may be gone over several times and the greatest possible use made of a meagre amount of material. Second or third grade children read the story silently, and write questions about it one day. Instead of an oral reading lesson have them answer the questions briefly. The next day the pupils read the story aloud. At some later date instead of reading the story again, have it read silently, then dramatized. The older pupils will usually be delighted to help in it.

Another way of reviewing the story is to have the children read it silently, then illustrate it. The drawing may be crude but children appreciate it. The drawing should be done on a large, free scale.

It is said that we must meet a word eight times before it is fixed in mind. Partially-sighted children do not meet words in print as often as other children. We should bear this fact in mind in our reading problem with children having defective vision. Word drills

should be given three or four days before the words are to be used. Introduce the words in sentences or conversation as often as possible. This should be repeated for two or three days. If the children in their supplementary reading ask for words, tell them the word if they cannot get it from the context. The thought should not be held up for word drill. The word drill can be given later on the words that have proved to be troublesome.

After a proper foundation has been laid in the lower grades, reading in the sight saving classes may properly resolve itself into reading for information. The reading lesson will often consist of reading the geography or history lesson. If the pupil has a proper foundation in silent reading, it will be of great benefit when he reaches this stage. To help the child to realize that he is reading the history or geography for some very definite reason, it is sometimes well to have him write out topical questions on the subject upon which he is reading.

Some discussion has arisen as to the proper way of holding the reader in sight saving classes. Some classes have book holders, others use the newer type of movable desk with the top tipped. The desks with the readers placed upon the tilted top are not satisfactory for use by myopes, for the book is too far away. The adjustable book holders are excellent, as the child may have the book held at the proper distance for his particular eye difficulty. There has been some discussion as to whether or not the children should be taught to



hold their books at the proper and comfortable distance from their eyes. This would seem to be the ideal way as they would be properly trained to hold the books up to their eyes rather than to bend over to the book. Reading habits will affect their posture; posture will affect their health. In later life they will not be provided with book racks and desks, therefore school training in the proper position for reading will be invaluable to them.

In reading lessons in sight saving classes care must be taken that the desks are placed in proper relation to natural lighting. Desks should be so arranged that no child looks at the light. Sometimes placing the desks diagonally will help, but care must be taken when placing the desks diagonally that a shadow is not thrown on the page.

If several pupils are reading at the same time, children should not sit in a circle. Circle formations of desks have no place in sight saving classes unless natural light is excluded. Rather use a semi-circle so arranged that no child will be looking at the light.

Each pupil in a sight saving class must have a book of his own. Two pupils should never try to read from the same book at the same time.

### *Outside Reading*

Sight saving pupils go through a period when, like all mentally normal children, they want to read library books. It is very difficult to take away so profitable an occupation without substituting something in its

place. As a substitute for public library books, the Cleveland sight saving classes have a sight saving library of story books. These books were purchased with money given privately for this purpose. Most of the books chosen for this library have very attractive colored pictures or silhouettes. This helps in a slight measure to make up for lack of pictures in the clear type books.

The following is a list of the books which are suitable for sight saving classes:

- The Precious Gift. Bible Stories for Children.  
Theodora Wilson, Blackie & Son, London.
- The Chunkies Adventures.  
Chloe Preston, Oxford University Press, London.
- The Peek-A-Boos at the Zoo.  
Chloe Preston, Oxford University Press, London.
- Mother Goose in Silhouettes.  
Houghton Mifflin Company, Boston.
- Nursery Rhymes.  
T. C. and E. C. Jack, London.
- The Sing Song of Ole Man Kangaroo.  
Kipling, Doubleday Page and Company, Garden City.
- How the Rhinoceros Got His Skin.  
Kipling, Doubleday Page and Company, Garden City.
- Bunny Borough.  
Humphrey Milford, Oxford University Press.
- The Great Adventure.  
Humphrey Milford, Oxford University Press.
- Our Little Neighbors (Animals).  
Humphrey Milford, Oxford University Press.
- The Book of Baby Birds.  
Humphrey Milford, Oxford University Press.
- Aladdin (paper binding).  
Educational Publishing Company, Cardiff.
- Large Type Story Reader.  
Educational Publishing Company, Cardiff.
- Blackie's Little Ones' Annual—1924.  
Blackie & Sons, London.
- Tub-Time Tales.  
Madeline Barnes, Blackie & Sons, London.
- Happy Pictures.  
Harold Earnshaw, Blackie & Sons, London.
- Lie-Down Stories.  
Natalie Joan, Blackie & Sons, London.
- Josephine Keeps School.  
Mrs. H. C. Cradock, Blackie & Sons, London.

Blackie's Little Ones' Annual—1925.

Blackie & Sons, London.

All Round the Farm.

Blackie & Sons, London.

Through Field and Wood.

Blackie & Sons, London.

Three Old Favorites.

Illustrated by Frank Adams, Blackie & Sons, London.

The following books are very good type and also very reasonable:

Easy to Read Series, Blackie & Sons, London.

The Little Tin Tea Set.

Brownie and the Grocer.

The Run-away Bun.

Jack a Dandy.

The Wizard's Chair.

The Golden Gobbler.

The Three Silver Pennies.

Dame Trot and Her Cat.

Three Bad Pups.

Mrs. Grunt and Puck the Pig.

Magic Duck.

The Old, Old, Fairy Tales, Nina K. Bouseley.

Ward, Lock & Company, London.

My Picture Book of Animals, Harry Golding.

Ward, Lock & Company, London.

My Picture Book of Ships.

Ward, Lock & Company, London.

## *Typewriting*

Touch typewriting is taught by the sight saving class teachers to all pupils except the myopic. It is taught as a speedy, efficient, and legible means of doing written work which must be handed in to the teachers of the recitation rooms. It is not to be read by sight saving pupils.

Typewriting should be commenced by pupils in the fourth grade unless they are undersized, behind in their school work, or physically unable to carry this extra work. All typewriting in the elementary grades should be practiced under the supervision of the teachers. Wrong habits of fingering may be learned during periods of unsupervised practice which can never be overcome. Pupils who fail to accomplish the desired result should be studied in order to determine whether this is due to lack of ability, lack of practice,

lack of motor coordination, or indifference. If the study reveals that advancement is possible, if suitable inducements and rewards are offered as incentives to accuracy, speed, etc., such rewards should be made. If, after a sufficient trial, pupils do not improve in typewriting, they should be permitted to drop this subject. When such pupils are promoted to another teacher a notation should be made of their particular difficulties in typewriting and forwarded to the new teacher. Much overlapping of time and effort on the part of both teacher and pupil will be saved in this way. Pupils should be prepared thoroughly in fourth, fifth, and sixth grades so that pupils on entering junior high school will be sufficiently accurate to do much of their written work on the typewriter.

Experience has shown that the typewriter is not a practical sight saving tool in the hands of the immature *myopic* pupil; neither is it desirable to foster an interest in typewriting which many of the myopic children erroneously think would be a good vocation for them.

### *Writing*

The following media are used for writing in sight saving classes: large soft chalk on the blackboard; large soft pencils on dull finished paper; special pen and ink on sight saving paper; typewriter.

In general sight saving writing should be first of all legible. The writing should be of good size but not too large. Letter lines should be broad and even. Spe-

cial emphasis should be placed on proper spacing between letters, words and lines. Letter forms should be reduced to their simplest elements. Care should be taken not to slant the writing too much.

Sight saving pupils should be taught to write with pen and ink before entering junior high school. The Speedball pen point number 4A, B, or C has been found to be satisfactory for these pupils. A mixture of India ink and school ink is recommended. Sight saving paper of the quality mentioned in the equipment list has been found to be very well adapted for use with pen and ink as well as with pencil.

Some experimenting has been carried on in the sight saving classes in the use of manuscript or print writing. This style of writing seems to have the following advantages for use by children with partial sight: (a) it is clear, legible and well adapted to the broad lines necessary in sight saving writing (b) it reduces strain on immature muscles of fingers and arms (c) it is conducive to neatness and orderliness (d) it seems to be possible for pupils who are poor writers of the cursive style to write legibly in print (e) the transition from type to handwritten form is made more easily for small children (f) it is easy to make the change to cursive writing if it is advisable.

This experiment has been conducted for such a short time that it is not possible at present to give any very definite results. Some of the writing done by pupils who are just beginning this method is shown in the illustrations on page 14.

In teaching manuscript writing in sight saving classes the letter forms are reduced to their simplest elements and stripped of all embellishments in order to maintain the highest possible standard of legibility which is our chief concern in sight saving classes.

### *Language*

Sight saving pupils should attend oral language lessons in the regular classroom.

Written language work should be done under the supervision of the sight saving teacher.

### *Spelling*

Spelling in most of the sight saving classes is taught in the sight saving classroom. These pupils see words less frequently than children of normal sight who have a larger field of reading and consequently the sight saving spelling lesson should be supplemented by additional words from the classroom lessons. Special emphasis should be placed on the pupil's observation and concentration when a new word is presented. He must look at the word more carefully than a child with normal sight in order to form a true mental picture of it.

During February and March, 1925, a spelling test was given to the pupils in the sight saving classes of the Cleveland public schools. The Morrison-McCall Spelling scale was used. The spelling achievement of sight saving pupils compares with the norms obtained

from testing thousands of pupils of the same grade as follows:

<i>Grades</i>	2	3	4	5	6	7	8	9
Number tested .....	23	18	27	26	28	22	13	5
Average number of words correct in regular grades.	11	18	24	30	35	39	42	44
Average number of words correct in Sight Saving classes .....	9.2	18.8	24.2	29.6	35.0	38.9	39.6	46.2

This test showed that sight saving pupils compared very well in spelling ability with pupils of normal sight in the same grades.

### *Manual Training and Domestic Science*

In most elementary schools there is no regular course in manual training or domestic science. Low vision sight saving pupils from elementary classes are sometimes sent to special after-school classes in these subjects with the junior high pupils. See page 49.

### *Handwork*

In planning the handwork for pupils in sight saving classes, two aspects should be kept in mind, the physiological and the sociological. Added to the need of selecting handwork according to a child's age and his muscular development is the necessity of choosing it in terms of sight requirements. It is important that the lessons in handwork should not be omitted from the schedule for sight saving classes, for besides their general educational value they have the added value of offering rest periods from reading and written work, and of giving the child safe occupational pursuits for his leisure time. Most children like to read at home.



Examples of various kinds of handwork done by pupils in sight saving class.

We cannot expect admonitions against reading and sewing at home to become effective (in fact home visits reveal they are not) if no substitutes are provided. Much of the handwork should be planned with a view to the seasons. The finished product should be of some value to the child as a gift, and should interest him as a thing of beauty and color.

The following list is suggestive of the work which may be done by different grades during the year:

- |  |  |
|--|--|
| Clay modeling.                               | Reed work.   |
| Free cutting—no line cutting.                | Basketry.  |
| Paper folding, tearing, and pasting.         | Crepe paper flowers.                                     |
| Sand pile play.                              | Waxed paper flowers.                                     |
| Crude freehand drawing.                      | Coping saw work.   |
| Crude building with wooden boxes and spools. | Crocheting with large wooden needles and rags or roving. |
| Paper and cardboard construction work.       | Knitting on round frames—finger work.                    |

### *Drawing*

Sight saving pupils do not attend drawing lessons in the classroom. The handwork previously described is offered as a substitute for the art work. These pupils



may do rough sketching with chalk or heavy pencil, freehand paper cutting, modeling, poster making and crepe paper novelties, not involving detailed work.

Silhouettes using a kodak printing frame may be made. Pictures are cut out by the teacher to be used as patterns for silhouettes. The pupil places the picture on the glass of the printing frame. These are made following the process described under nature study.

### *Eye Hygiene*

"The Outline of Eye Hygiene for Sight Saving Classes" which is used in Cleveland, Grades I-IX inclusive, is given in full in the appendix.

### *Music*

The music in sight saving classes falls under two headings: individual instrumental lessons, and group music. Instruction is offered in piano and, for the boys, on band instruments. Pupils are given the privilege of individual lessons in accordance with their interest in music, their ability, or their need of such training for social or recreational purposes, for the manual development involved, or for artistic and emotional expression. Only those sight saving pupils whose eye condition makes advisable the reading of any music suitably prepared are included.

Instruction includes training of the musical hearing and understanding as well as reading and memorizing from large type music specially prepared by photo-



Eurythmics in a sight saving classroom.

stat process. Standard educational material is used, but exercises are given by ear rather than by note, and keyboard harmony is a part of the regular instruction.

Group music is offered in all the classes. In the lower grades the emphasis is on rhythmic training, on listening, and on singing. In upper grade classes work suitable to the particular group is chosen. This may be singing, study of harmony and notation (chiefly through hearing), music appreciation, or experimental music work with home-made and toy instruments; or it may result in the development of an original "orchestra." The material used is largely simple folk music.

Boys who are far enough advanced on band instruments may play in the boys' band of the department or may become members of a regular school band or orchestra.

### *Large Type Music*

As a result of several months experimenting, which was conducted gratis by a Cleveland firm which became interested in the project, a new method of enlarging music was found to be practicable. The enlarging is done by the photostat process. By this process the music to be copied is placed in the enlarging machine. A negative is made and from this as many duplicate copies as needed may be secured. This music is in the required size with black notes on white paper. The paper has a matt surface. This process has the following advantages: (a) no mistakes can be made in copying from the original (b) glare is eliminated (c) the quality is uniform (d) a small number of copies can be made, thus securing a greater variety of musical compositions.

### *Physical Training and Games*

Some elementary sight saving classrooms are provided with a swing or flying rings. At least once in each session all the children should have an opportunity for a few minutes of free play or some form of physical activity in addition to that gained in the regular outdoor recess. Frequently it is possible for the pupils to get this with the regular classes, but more often they

are not in the rooms at the short intervals between lessons which are generally devoted to the physical activities. The teachers in the sight saving classes have found that games conducted in their rooms can be made to correlate with language work and other subjects, thus serving several purposes at once. They offer relief from eye work, add zest to drill, and are enjoyable and refreshing.

### *Schedule for Junior High Classes*

In Cleveland the junior high sight saving classes are housed in junior high buildings where there are three grades, seventh, eighth, and ninth. In these buildings the curriculum varies slightly. Sight saving class pupils take the major required and elective subjects: mathematics, English, geography, history, science, and a language—in all sight saving classes this is French. French vocabulary sheets sufficiently enlarged for sight saving class use have been prepared on the photostat.

Pupils participate in other subjects such as physical training, school music, hygiene, and shop work according to their individual eye conditions and the methods employed in presenting the subjects. In general no myopic pupils take physical training or shop work, while low vision pupils are permitted to do so. To make up for this, myopic pupils have special handwork under the supervision of the handwork teacher from the department who goes from school to school. They also have special music according to their aptitude and ability. This is generally a continuance of the ear work

and musical appreciation given in the elementary grades. These pupils are not given individual piano lessons.

Special after school classes in woodwork and general manual training are held for the boys whose vision is too low to permit them to take any shop work with the regular classes, but whose sight will not be injured by the performance of such work as they can see to do. In these classes the work is ungraded and is selected solely in accordance with the ability and need of the boy.

The low vision girls have handwork and cooking in similar special groups.

The low vision boys also have instrumental lessons and an opportunity to play in the boys' band. No opportunity has as yet been offered to the girls for this special training because it does not offer the same vocational possibilities for them.

### *Senior High*

While no special sight saving classes are conducted beyond the ninth grade, it is necessary to make some provision for the sight saving pupils to attend the regular classes in senior high school in their own districts. Only sight saving pupils who are capable of high school work, or who are not 16, are advised to enter high school. The course of study is carefully selected for them by the special vocational and educational adviser and the high school teachers. The subjects are selected with a view to the amount of eye work demanded in

their preparation, and to their value in preparing the pupils for suitable work later.

Pupils with high myopia are not advised to take college or normal school preparatory courses. Some have taken the salesmanship course, the household arts course — omitting sewing — or the horticultural or gardening course.

Owing to the comparatively small enrolment in sight saving classes, the actual number of pupils completing high school is small.

## SOCIAL EDUCATION OF SIGHT SAVING PUPILS

An educational scheme for partially sighted pupils would be very inadequate if it did not provide training which would enable the boy or girl to minimize his handicap and learn to compete socially as well as vocationally with his neighbors.

Two visiting teachers who have had experience both as teachers and social workers are assigned to the sight saving classes in Cleveland.

It is the duty of one of these visiting teachers to take up the new cases referred by oculists, dispensaries, and school clinics, see that they have a psychological test, and are passed upon by the school ophthalmologist as bona fide candidates for sight saving classes, prepare the family for the transfer from regular class, and attend to the details of the transfer. Another phase of this teacher's work is to visit in the homes, find out

how the child spends his leisure time, win the family cooperation against permitting any close work, and establish friendly relationship between the home and the school. She calls upon the child in the school, settlement clubs, Hebrew schools, or in other outside activities, and explains to the workers in charge the danger of permitting the child to perform certain types of work. In this way the child is helped to avoid the temptation to read, to do weaving, sewing, or fine wood work. Other occupations are suggested, and general habits of performing work without straining the eyes are formed during school age.

The visiting teacher for the junior and senior high school pupils, as mentioned above, is also an educational and vocational adviser. It is a part of her work to help pupils select the desirable courses with a view to their future work, to arrange readers for those in high school who should not use small type books, and to help them to secure the work suggested when they leave school. Pupils are followed up over an indefinite period depending upon their difficulties and the necessity for investigating their work in relation to its demands upon eyesight.

## ACHIEVEMENTS OF SIGHT SAVING PUPILS

### *Saving Sight*

It is not possible to give statistics to show all the *sight saving* results of these classes. There are many cases which from their very nature can never improve.

The results of these cases may be shown frequently in reduced nerve strain, improved general physical condition, and a better school record. There are some cases of myopia which increase under any conditions but there is no way of telling what the amount of increase would have been had these children not been in a sight saving class.

A table follows which shows the results of the re-examinations made in 1924-25:

Eye Condition	No. of Cases	Un- changed	Improved Vision	Decreased Myopia	Increased Myopia	Condition Improved
Myopia .....	5	3	..	..	2 very slight	..
Myopic astigmatism .....	7	4	1	2	..	..
Myopia and choroidal changes..	1	1	..	..	..	..
Hyperopic astigmatism .....	1	1	..	..	..	..
Nystagmus .....	1	1	..	..	..	..
Macular choroiditis .....	1	1	..	..	..	..
Congenital cataracts .....	4	2	2	..	..	..
Macula of cornea .....	1	1	..	..	..	..
Coloboma of choroid .....	1	1	..	..	..	..
Interstitial keratitis .....	3	1	1	..	..	2
Interstitial keratitis and myopia .....	4	2	4	..	1	3
Chorio-retinitis .....	1	1	..	..	..	..
Dislocation of lens.....	1	1	..	..	..	..
Dislocation and myopia.....	1	1	..	..	..	..
Traumatic .....	1	1	..	..	..	..
Choroiditis .....	1	1	..	..	..	..
Macula of cornea and myopia..	2	1	..	..	1	..
Corneal opacities .....	3	3	..	..	..	..
Myopia and nystagmus.....	1	..	..	1	..	..
Choroiditis and nystagmus.....	1	1	..	..	..	..
Optic atrophy and nystagmus...	2	1	1	..	..	..
Atrophic choroiditis .....	1	1	..	..	..	..
Optic atrophy .....	2	1	1	..	..	..
Compound hyperopic astigmatism	1	1	..	..	..	..
Old uveitis with choroidal changes	1	1	..	..	..	..
Congenital cataracts and nystagmus .....	1	1	..	..	..	..
Post polar cataracts.....	1	1	..	..	..	..
High myopia .....	18	10	2	..	6	..
Total .....	68	45	12	3	10	5

From this table it will be seen that 39 pupils had myopia either alone or with various complications; 22 had an unchanged condition, 3 had improved vision, 3 decreased myopia, and 10 increased myopia.



During the school year 1924-1925 2% of the enrolment was returned to the regular grades because of improved eye conditions.

### *Educational Achievements*

Visitors to sight saving classes notice that many of the pupils are over-age for the grade in which they are classified. This situation was investigated in 1923. The results, based upon the total enrolment of the sight saving classes of Cleveland, are found in the following table:

Percentage under normal age.....	2.6
Percentage normal age.....	31.5
Percentage 1 year retarded.....	23.6
Percentage 2 years retarded.....	23.6
Percentage 3 years retarded.....	13.1
Percentage 4 years retarded.....	5.2
Percentage 5 years retarded.....	.6

This table shows a total of 65.9% of the total enrolment of the sight saving classes of Cleveland are chronologically retarded.

The question then presents itself as to why we find such a large percentage of retardation. These children must be of normal mentality to be eligible to the class. The school records of 100 pupils on the enrolment list of the Cleveland classes were studied. The first 100 pupils on the enrolment list were made the basis for this project. The number of possible semester promotions which could be made were found, then the number of actual semester promotions made. It was found that

- 15 pupils exceeded the normal rate of semester promotions.
- 25 pupils failed to make the normal rate of semester promotions.
- 60 pupils made the normal rate of semester promotions.

The percentage of possible promotions made after

these pupils entered sight saving classes was 93.7.

These figures are of significance when compared to the rate of chronological retardation which is 65.9% of the total enrolment of the sight saving classes of Cleveland. This is due to the fact that most of the pupils have been retarded before entering special classes. These pupils have either been out of school because their eye conditions prohibited their attendance in regular classes, or because of insufficient vision they were unable to keep up with the regular class.

From statistics based upon the records of this group of 100 pupils it is evident that a large percentage of promotions (93.7%) are made after the pupils are placed where they have proper training and equipment for overcoming their handicap.

Many individual cases have been reported by teachers who have pupils who were retarded until they entered sight saving classes. Since their entrance they have never failed to make a promotion. It is evident that the handicap of many children is not discovered early enough in their school life. If it were discovered sooner many of these pupils would be saved from one to three or four years of retardation.

A survey of promotion records of sight saving pupils enrolled for the school year 1924-1925 follows:

First semester 1924-1925	
Non-promotions .....	4 + %
Single promotions .....	94 + %
Double promotions .....	1 - %
Second semester 1924-1925	
Non-promotions .....	3 + %
Single promotions .....	93 + %
Double promotions .....	2 + %

These figures are significant because they reveal the

very small percentage of failures after pupils with partial sight are properly placed and given educational equipment adapted to their needs.

### *Vocational Achievements*

In April, 1925, a follow-up letter was sent to the sight saving class boys and girls under 21 years of age, who had left school to go to work or to go on with their studies. The following data was collected:

Number of questionnaires sent out.....	43
Working .....	33*
At home .....	8
Married .....	2

\*2 temporarily out of work, have earned \$21 and \$30 a week respectively.

#### Different kinds of work reported:

Canning factory.	Examiner of neckties.
Department store errand boy.	Canvassing.
Department store messenger boy.	5 and 10c store clerk.
Housework.	Factory work.
Bus boy.	Upholstery.
Bench assembly work.	Loading trucks.
Market clerk.	Wrapping.
City street department.	Nursery maid.
Stenographic work (not recommended)	

Wages from \$10 a week to \$80 a month. 3 reported that they were not making a living but they were earning \$12 a week. Others reported that they were making a living on this wage.

High school graduates.....	3
Some high school work.....	7
No high school .....	33
Total .....	43

From this data it may be concluded that boys and girls under 21 follow vocational channels very similar to those of the normally-sighted, with the exception that their particular jobs are chosen with reference to the amount of eye work involved. Sight saving pupils mingle with the other boys and girls, and as workers do not remain segregated.

## APPENDIX

The following outline of eye hygiene was planned by teachers in Cleveland sight saving classes with the advise of Dr. S. H. Monson, the school ophthamologist. It is offered here not as an absolutely final course but as suggestive.

### Eye Hygiene

The aim of the teacher of a sight saving class is to inculcate right habits in the use of the eye. In order to do this we must teach some of the physiology of the eye, but the emphasis should always be upon the formation of good sight saving habits.

Eternal vigilance is the watchword of success. Telling a child once that he must turn his seat so that the light falls properly will not suffice. He must be constantly made to *act* until the sight saving habits he has learned at school are *acted* upon at home as well as at school; in the regular class room as well as in the special room.

### Suggested Topics for Primary Grades

In the primary grades twenty minutes a week should be devoted to eye hygiene. During that period some particular sight saving habit should be stressed. Poster illustrating that topic should be displayed in the room.

#### *First Week: Importance of Sight*

Children discuss the senses using the Jessie Wilcox Series to illustrate this. Ask the children which sense is the most important. Blind-fold them. Let them walk. Unfasten their shoes and attempt to fasten them again. Any lesson of this kind which will help to bring home to them the importance of sight may be used.

In connection with this lesson a booklet, "Pleasures Enjoyed through the Eyes," could be made. Colored pictures from magazines may serve as illustrations. (Pictures with little detail should be selected.)

### *Second Week: How Nature Protects Our Eyes*

Nature protects our eyes with great care because they are so valuable.

1. Eye placed in bony socket—protects from blows, etc.
2. Lids—curtains to keep out foreign bodies, too much light, etc.
3. Lashes—shades for eyes when open.
4. Tears—to wash out eyes if anything does get in—to moisten the eyes.
5. Eye brows—cushion of hair on upper margin of bony socket.

Poster: Save

Sight                      or           Eyes Are Nature's Jewels.  
Constantly

### *Third Week: How Cleveland Protects Eyes*

- Sight Saving Classes:
1. Why we have them.
  2. Where we have them.
  3. How many classes?
  4. Appreciation lesson.

Poster: Cleveland Helps Save Sight.

Children may write a story about a sight saving class.

### *Fourth Week: Difference in Amount of Sight*

1. All children in sight saving classes do not have the same amount of sight.
2. Kinds of eyes.

Let individual children tell about their eyes so that they may see that all pupils cannot use their eyes in the same way. This may be illustrated with the story of the person who has \$1000, another \$500, another \$50, and the way in which they use the money they have.

Poster: You have only one pair of eyes—Be Good to Them!

### *Fifth Week: Proper Position for Holding Clear Type Books When Reading*

Poster: How Do You Hold Your Book?

(This may be illustrated with rough sketch of "Careless Carl" and "Sight Saving Sam." Sight Saving Sam is sitting erect and holding his book properly.)

*Sixth Week: Proper Position of Desks*

Teach children to move their desks into proper position in relation to light, both natural and artificial. Home lighting might very properly be discussed at this time.

Poster: Let the Light Come from Behind You or Over Your Left Shoulder.

*Seventh Week: Clear Type Books*

Why we use Clear Type Books.

How they are made.

How they should be used.

Why we do not read books from the library.

Poster: Large Type Books are the Books for Us.

*Eighth Week: Rest Periods for the Eyes*

How can we tell when our eyes need a rest?

How shall we rest them?

Poster: Be Kind to Your Eyes.

*Ninth Week: Clean Glasses*

Why should we have clean glasses?

How shall we clean them?

When shall we clean them?

Poster: Good Morning! Have You Washed Your Glasses?

*Tenth Week: Straightening Glasses*

Why must our glasses be straight?

Who will straighten them?

What is the proper way to take off glasses?

How shall we lay them down?

How shall we put them on?

Poster: Are Your Glasses Straight? or When clean and straight and in their places, Glasses go with happy faces.

*Eleventh Week: Teaching Our Hands to Work for Our Eyes*

What kind of work can we do in school to make our hands work for our eyes?

How do you make your hands work for your eyes at school?

At home?

Poster: My Hands Work for My Eyes.

*Twelfth Week: Saving Baby's Sight at Home* (Practice with doll)

1. Protect baby's eyes from bright light.
2. Use clean handkerchief to wipe baby's eyes.
3. Have the baby's playthings below his eye level.

Poster: Keep Baby's Eyes Bright and Shining.

*Thirteenth Week: One Word Test*

*Fourteenth Week: Prevention*

- A. Avoid common dangers from sharp and pointed things.  
Discuss danger of playing with knives, sharp pointed scissors  
and other things at home and at school.

Poster: Safety First.

*Fifteenth Week: Prevention*

- B. Avoid eye strain which causes inflammation.  
How can children tell when they are straining their eyes?  
What should be done when children think they are straining  
their eyes?

Poster: Tired Eyes Need a Rest!

*Sixteenth Week: Prevention*

- C. Avoid a rundown physical condition by eating, sleeping, and  
playing at the right time and in the right way.

Poster: Any used for general hygiene.

*Seventeenth Week: Prevention*

- D. Avoid the use of a common towel, soap, handkerchief, etc., by  
which inflammation is spread.

Poster: Be Clean!

*Eighteenth Week: Working in Artificial Light*

How do you read at home?

What do you read?

If you do not read how do you spend your time at home?

(This is an opportunity to interest children in outdoor games,  
story hours at libraries, etc.)

Poster: Daylight Is the Best Light.

### *Nineteenth Week: Sight Saving at Home*

Have your mother, father, or some older brother or sister read aloud to you in the evening.

Do not let other children in your family read by the flickering light of the fireplace nor read when it is twilight without turning on the lights.

Poster:

There is a boy in our town  
And he is very wise,  
He always takes the best of care  
Of his big brown eyes.  
He does not read while lying down,  
Nor even face the light,  
And so his eyes are fine and strong  
And beautiful and bright.

### *Twentieth Week: An Original Lesson*

Children make up fable, poem, or story on sight saving.

*Twenty-first Week:* Children write original play on how to welcome a new pupil in a sight saving class.

*Twenty-second Week: Original Play* Sight Saving for the baby at home.

*Twenty-third Week:* Write a short letter to your oculist telling him what you have done to save your sight this year.

*Twenty-fourth Week: One Word Test*

## Suggested Topics for 4th, 5th and 6th Grades

*Introduction:* We can take pictures without a camera. We take them with our eyes. Shut your eyes and call to mind some person you have seen.

The camera is a box lined with black.

It has a sheet of glass or celluloid in the back for the picture to fall on.

The glass lens for the light to come through is in the front. The black cover or shutter opens and leaves a little hole to let the light in when we take a picture and closes after the picture has been taken.

The eye is like a camera but is a ball-shaped box. In the middle of the colored part of the eye there is a round black hole. Perhaps you can see your picture if you look closely in someone's eye. The



black hole gets smaller or larger according to how bright the light is.

Here is a picture of your eye as it would look if it were cut in half.

In the front is a colored curtain called the iris. In this is a little round hole for the light to come through. This little round hole in the iris is called the pupil. The light passes through the lens just as it does in a camera and falls on the black lining or retina at the back of the eyeball. There it makes a picture.

(Diagram of the eye may be found in any book on Eye Diseases. Diagram of the camera, showing shutter, lens, box, and plate, may be drawn on the board.)

### *Value of the Eye*

1. At home
2. In school
3. How nature shows its value—protection
4. **How** the state shows its value—protection through sight saving classes

### *The Need of Protection*

1. Eye is so useful.
2. Eye is so easily damaged.

### *Position*

1. Eye rests in a bowl-shaped socket.
2. Socket is lined with membranes and tissues which make a soft yielding bed in which the eye rests and moves.
3. Openings at back of socket are for optic nerve which passes from brain to eye.

### *Movement of Eye*

1. Caused by six muscles like strips of elastic  
These turn the eye from side to side or roll it up and down.

### *The Three Coats*

- I. The outer coat—
  - a. Known as the "white of the eye"
    1.  $\frac{5}{6}$  of the eyeball
    2. Color—white
    3. Nature—hard, tough
    4. Use—to protect what is inside, to keep the shape of the eye, framework of the eye

- b. Window of the eye
  1.  $\frac{1}{6}$  of eyeball
  2. Colorless
  3. Nature—can be seen through
  4. Use—the part one sees through
  5. Care—we must keep this window clean.

## II. The second coat—

- a. Not seen
  1. Color—dark
  2. Nature—delicate
  3. Use—storeroom for the food for the eye
  4. Shape—folds as it comes to the front of the eyeball
  5. Changes—become thick—muscles
- b. In view
 

The ends of the muscles thin out and come into view.  
Called the Iris

  1. Iris—the color of the eye
  2. Pupil—a hole in the iris—seems black—why?

## III. Third coat—

1. Seat of sight
2. Is attached to second coat—like paper on the wall

### *The Three Fluids of the Eye*

1. Fluid in the front part of eye
  - a. Nature—watery  
easily replaced  
transparent
2. Lens
  - a. Shape—like a magnifying glass
  - b. Nature—semi-solid
3. Fluid in the back part of the eye
  - a. Nature—thin jelly enclosed in envelope—transparent
  - b. Use—1. To hold 2nd and 3rd coats of eye in place  
2. To keep form of the eye

### *Conjunctiva*—Covering all exposed parts of eye

- Nature—
1. Thin
  2. Movable over white
  3. Thinner over front of eye
  4. Extends into nose, mouth, throat

## Conclusion

Eyes are unlike a camera as we may take as many pictures as we like but eyes cannot be replaced so we must take very good care of them.

Every good sight saving pupil will follow these rules:

1. Always read in a good light.
2. Read large print.
3. Let the light come from over the left shoulder.
4. Sit up straight.
5. Hold your book at the proper distance.
6. Keep your hands away from your eyes.
7. Have your own washcloth and towel and use the water as it comes from the faucet to wash your eyes.
8. If your eyes hurt tell your teacher.
9. Write large and plainly.
10. Rest your eyes.

Perhaps the children can make up a verse something like this:

Miss Vera Wise prizes her eyes  
More than some who are older,  
You see her light, steady and bright,  
Falls over her left shoulder.  
No pale, fine print will make her squint—  
She does not read all day.  
If you, too, prize your precious eyes—  
Follow Miss Vera's way.  
(The Most Wonderful House by Mary Haviland).

*Application:* Write a story explaining about sight saving classes to some friend who has never heard of one.

Applications may be varied as the teacher wishes.

## Junior High Grades

An individual will conserve his vision only when—

1. He has a knowledge of eyes in general
2. He understands his own eye condition
3. He knows how to conserve vision

The pupils in the junior high schools should know enough about the eye and how it works, so that they can understand why a particular sight saving habit is desirable.

This work should be given regularly once a week, from 15 to 30 minutes, the time varying with the school. A grade should be given at the end of the term.

The work may be made more interesting by the use of slogans, posters, note books, question and answer box.

## HYGIENE OF THE EYE

*Eye*—what it is—Organ of sight.

*Function*—To convey to the brain an image of what one looks at.

*Location*—In forehead, in bony socket.

*Protection by nature*—

1. Bony framework
2. Bony framework lined with thick bolster of fat
3. Only  $\frac{1}{3}$  of eye is exposed, and this is covered by lids.
4. Interlacing eyelashes keep out dust.
5. Eyebrows
6. Conjunctiva and tears

*Anatomy of Eye*—

1. Size—about 1 inch in diameter
2. Shape—nearly spherical
3. Wall of eye made up of 3 coats
  - (1) Outer coat called sclera
    - a. Nature—white, opaque, inelastic
    - b. Holds eyeball in shape, muscles of eye attached to sclera
    - c. Front part of sclera called the cornea
  - (2) Middle coat called the choroid
    - a. Nature—dark, contains blood vessels and pigment coloring
    - b. Functions—supplies the interior of eye with blood, and helps to absorb superfluous light
    - c. Albinos have no pigment—Brunettes a good deal—Blonds not much
    - d. Choroid merges into ciliary body
  - (3) Retina
    - a. Nature—thin, transparent, contains nerve fibers, a continuation of the optic nerve which leads to the brain

- b. Function—Rays of light from object focus on retina.
- (4) Front of eye
  - (1) The cornea or white of eye
    - Nature—Window of eye—Fits into sclera like a watch crystal—Transparent
    - Purpose—Protects eye—Allows rays of light to enter eye
  - (2) Iris
    - a. Nature—Circular curtain—Attached to choroid by ciliary body—Colored part of eye
    - b. Purpose—Regulates amount of light that enters eye—Gives color to eye
  - (3) Pupil
    - a. Nature—Hole in center of iris
    - b. Function—Allows rays of light to enter interior of eye
    - c. Size changes according to amount of light that falls upon it
  - (4) Crystalline lens
    - a. Nature—Back of pupil—Suspended by suspensory ligaments to ciliary body—Double convex lens—Transparent
    - b. Function—Refracts rays of light so that they focus on retina
  - (5) Fluids
    - a. Aqueous humor
      - Location—between cornea and lens
      - Function—transmits rays of light
    - b. Vitreous humor
      - Location—between lens and retina
      - Nature—jelly-like substance
      - Purpose—helps to preserve shape of eyeball

### *How the Eye Works*

Rays of light enter eye through cornea, pass through aqueous humor and pupil to lens. Lens bends rays so that after passing through vitreous humor they meet on retina. The impression is sent by optic nerve to brain. Then the person sees. Eye ball itself doesn't see—act of vision is performed by the brain. Illustrate.

## *How the Camera Works*

Rays of light enter opening in diaphragm, pass through lens where they are refracted, so that they focus on film.

## *Comparison of Eye and Camera*

<i>Eye</i>	<i>Camera</i>
Sclera	Sides of box
Choroid	Blackened inner surface of box
Pupil	Opening
Crystalline lens	Focussing lens
Iris	Diaphragm
Retina	Sensitive plate of film
Sending image to brain	Developing
Seeing	Printed picture

## *Advantages of eye*

1. Always exposed for receipt of new pictures
2. Ready for far or near pictures

## *Eyes which do not refract properly*

1. Myopia (near-sight)

The eyeball is too long. Therefore rays of light focus **too soon**.

Result: Vision is blurred—eye strains in order to see.

Straining makes the eyeball still longer, and may cause detachment of retina, resulting in blindness.

Correction: Wear glasses with concave lenses (thicker at edges, thinner in middle).

Avoid strain of any kind.

Illustrate refraction of myopic eye with and without glasses.

2. Hyperopia (far-sight)

The eyeball is too short. Therefore rays of light focus **behind** retina.

Result: Great strain to look at near objects, which give the person severe headaches.

Correction: Convex lens (thicker in middle).

3. Astigmatism

The cornea is irregular. Therefore the rays of light do not focus on one point causing a blurred **image**.

Result: Straining to see more clearly gives headaches.

Correction: Proper lenses.

4. Scars on the cornea prevent rays of light from entering eye to a certain extent.

5. Cataracts—an opacity of crystalline lens  
Rays of light cannot pass through crystalline lens.  
Result: Patient cannot see.  
Correction: Operation, then use of proper glasses

*How to conserve vision:*

1. Read only large type books.
2. Let the light come from behind you or over your left shoulder.  
Never face a window when reading or working.
3. Never read while lying down.
4. Never read in street cars.
5. Always sit up when reading. Bring the book to your eyes,  
not your eyes to your book.
6. Rest your eyes often by looking away into the distance.
7. Daylight is better than artificial light.
8. Don't read when recovering from an illness—eyes are weak  
then and easily strained.
9. Keep dirty hands away from eyes.
10. Write large and with soft pencil.

*Things for children to talk about at home:*

1. Attacks of measles and other fevers should be followed by long  
periods during which eyes are used but little. Strong lights  
should be avoided.
2. Keep babies' eyes clean.
3. Keep the sun off babies' eyes.
4. Protect children from all toys and articles with sharp edge  
or points.
5. Remember the eyes are healthy only so long as the body is  
healthy. Be outdoors as much as possible.
6. Don't read in the morning before breakfast, or at twilight.
7. Don't gaze for a long time on objects brightly illuminated by  
direct rays of sun.
8. Read only books that have a good, clear, large type.

*Work which will cause little eyestrain:*

**BOYS—**

Nursery gardening  
Messenger (indoor work)  
Insurance agents  
Rent collectors  
Shopwork under good conditions  
Masseurs  
Poultry farming  
Carpentry  
Travelers and Canvassers  
Hawkers and street traders  
Piano tuning

**GIRLS**

Selling in small stores  
Florist's work  
Waitresses in tea shops  
Light factory work  
Stock girls for girls with static  
eye condition  
Hairdressing  
Light warehouse work (packing)  
Housework

## REFERENCES FOR READING ON EYE HYGIENE

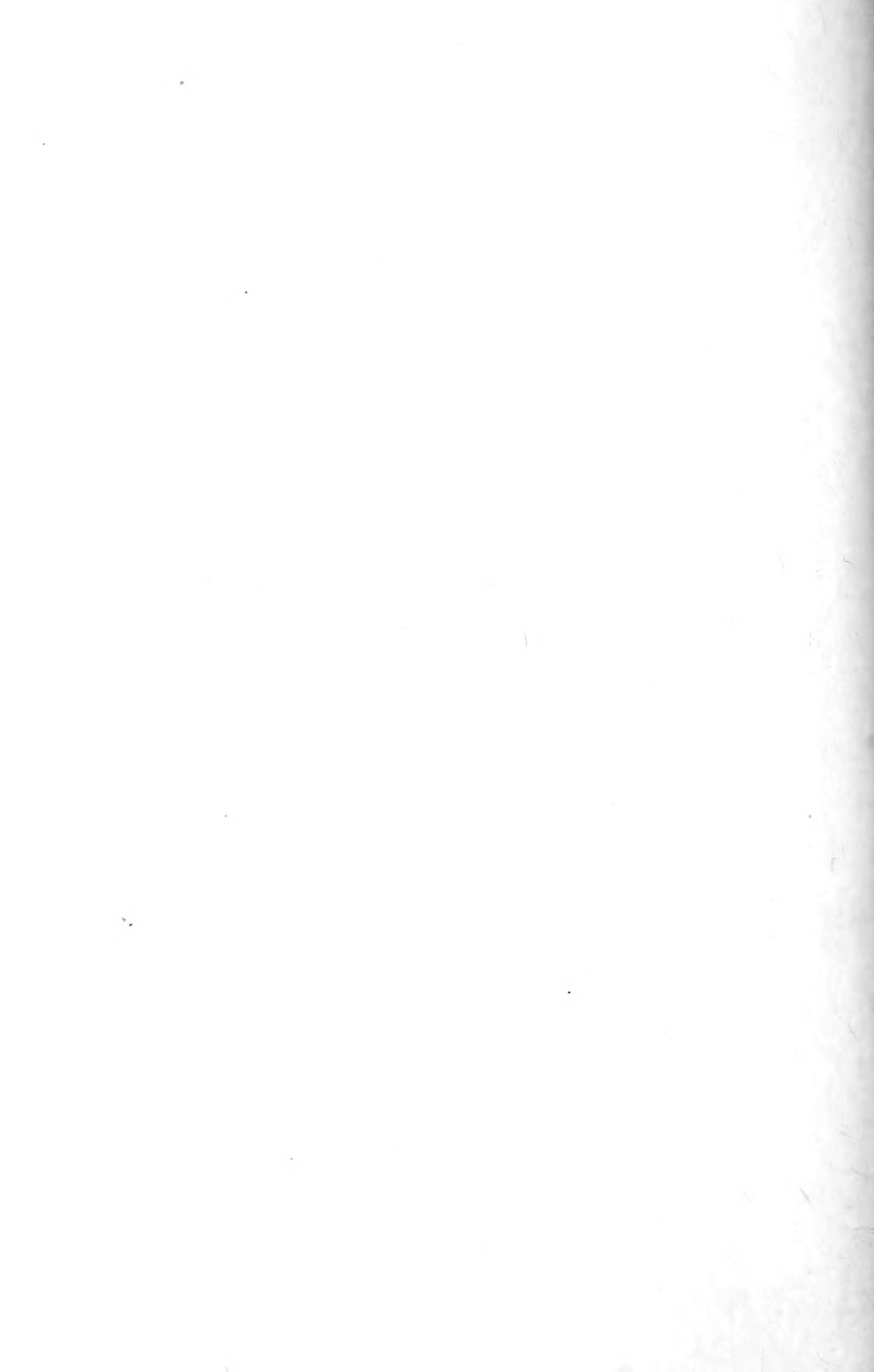
- Physiology and Hygiene for Young People.....Eadie  
 Hutchinson's Handbook of Health.  
 Human Body (Diseases of the Eye).....Martin  
 Practical Physiology .....Blaisdell  
 Gray's Anatomy.  
 Manual of Physiology.....Stewart  
 The Hygiene of the Eye.....Posey  
 Pamphlets—Conservation of Vision Series, published by the American  
 Medical Association, Chicago.  
 Anatomy, Physiology and Hygiene.....Walker  
 Youth's Temperance Manual (an elementary physiology).....Brown  
 Light—Chap. 1, 2, 8 }  
 Camera and Eye—Chap. 5 }.....Hastings  
 The Health Index of Children, Chap. 2, 31-38.....Hoag  
 A Treatise on Light—Eye—Chap. 19.....Houston  
 International Congress on School Hygiene—Transactions 3,  
 Pg. 168-172 Charts .....Risley  
 Photography for Young People, Chap. 2.....Jenks  
 General Science, Chap. 13, pp. 220-234; 235-239.....Lake  
 Encyclopedia of Education: Vol. 2, pp. 560-62, Hygiene of the Eye;  
 Vol. 4, pp. 360-63, Myopia.....Monroe  
 Studies in Sciences: Light—Eyes, Camera, Pg. 336.....Patterson  
 Personal Hygiene, pp. 171-276.....Pyle  
 School Hygiene, U. S. Bureau of Ed. pp. 44-46.  
 Astigmatism and Brain Work—Ped. Seminary Vol. 25, pp. 225-238 (1918)  
 School Sanitation, Chap. X.....Burrage and Bailey  
 Layman's Handbook of Medicine, Chap. on Eye.....Cabot  
 Health and Medical Inspection of School Children, Chap. 3, pp. 201-227,  
 Myopia, pp. 578-584.  
 The Hygiene of School Life, Chap. 3, pp. 23-26.....Crowley  
 Ocular Defects and their relation to the student, E. Review No. 46,  
 pp. 492-509 (1913).....Dresbach  
 An Introduction to School Hygiene, Chap. 9, pp. 123-147.....Drummond  
 Light and Sound, Chaps. 3, 4, 5.....Franklin and McNutt  
 Sonnenscheims—Cyclopedia of Education, pp. 119-120.  
 Hygiene of the Child, Chap. 14, pp. 245-281.  
 Diseases of the Eye.....May  
 School Vision and the Myopic Scholar.....Kerr











# METHODS OF TEACHING SIGHT- SAVING CLASSES

*For Mr. R. B. Brown  
with kindest regards  
Estella Lawes*

By ESTELLA LAWES

Sight-saving Classes,  
Cincinnati, Ohio

*April, 1926*

THE NATIONAL COMMITTEE FOR THE PREVENTION  
OF BLINDNESS, Inc.

370 SEVENTH AVE., NEW YORK, N. Y.



## FOREWORD

In 1919 the National Committee for the Prevention of Blindness published a Manual for Conservation of Vision Classes. This contained a summary of the principles of sight-saving class work as then understood. During the intervening seven years many new classes have been organized and experience has brought about a number of changes which have met with general approval. The work of sight-saving classes is, however, still in the beginning and the years to come will probably bring still more changes.

The present needs seem to indicate a division of the subject into two parts, one dealing with information necessary for those interested in the establishment of classes and the administrative side of the work, the other with methods of teaching for those actually engaged in the class work.

This publication on methods of teaching has been prepared by Miss Estella Lawes, who is in charge of sight saving classes in the public schools of Cincinnati. Miss Lawes wishes to acknowledge her indebtedness to the following for help in preparing the manuscript: The teachers attending the course for training in sight-saving class work given by the University of Cincinnati during the summer of 1925; the teachers of sight-saving classes in the Cincinnati schools; Miss Dorothy Breuer, for her painstaking work in the preparation of illustrations of programs; Miss Alice V. Burdge, her associate, and the members of the staff of the National Committee for the Prevention of Blindness.

Miss Lawes and the National Committee for the Prevention of Blindness will welcome suggestions and criticism which may be used in revising the present text.

This publication will be followed in the near future by another dealing with the establishment and administration of sight-saving classes.

NATIONAL COMMITTEE FOR THE  
PREVENTION OF BLINDNESS

LEWIS H. CARRIS  
Managing Director





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## INTRODUCTION

The ideas embodied in this pamphlet are a direct outgrowth of a course in Methods of Teaching Sight-saving Classes, which was given at the University of Cincinnati during the summer of 1925.

Sight-saving classes are such a new development in school activity, and ideas are changing so constantly, that no statement of this sort can be permanent. While this is being written many changes, without doubt, are being initiated. In addition to this, circumstances and varying school systems change conditions under which these classes operate. Nothing can be considered as final. However, among the teachers attending the University class there seemed to be considerable unity of idea and opinion regarding teaching methods, which may be helpful in answering many questions asked regarding the present practice in conducting classes for pupils with seriously defective vision.

## REASONS FOR ESTABLISHING SIGHT-SAVING CLASSES

Sight-saving classes are established for two reasons:

1. To conserve the sight of school children whose vision may deteriorate under ordinary school conditions.
2. To afford an education for children who have such defective sight that school progress is impossible without the use of large type text-books and material.

Children selected in accordance with these reasons are naturally divided into two groups:

### I. CHILDREN WITH PROGRESSIVE EYE DEFECTS

In this first group are included the myopes, especially those with high degrees of nearsight or with a progressive condition. With books held close enough, these children may be able to

see the smallest print. In working under this condition the myopia is increased and leads on to a definite deterioration of the eye itself.

## II. CHILDREN WITH PERMANENTLY LOW VISION

The second group includes children who have congenital amblyopia, that is, low vision from birth. These children never see well and there seems to be no way of correcting the defect. They are not able, as in the case of the myope, to use small type, but must depend on the large type to carry on their school work.

The cases used in the above illustrations are only two of the many types of children entering sight-saving classes. As a whole, the degree of vision of these children covers a considerable range. In fact, it is highly improbable that any two cases in a sight-saving class are alike in every particular.

## EDUCATIONAL STATUS OF SIGHT-SAVING CLASS CHILDREN

In order to conduct a sight conservation class properly there are three points which must be clearly understood by the teacher in charge:

1. These children are *sighted*, not blind.
2. What the nature of the handicap of each child is.
3. What the mentality of the children admitted is.

The first important step in developing right methods of instruction is to clear away any confusion which may exist between this work and work for the blind. Historically, these classes grew out of classes for the blind. After classes for the blind had been established in public schools, it was recognized that there were many children who had such defective vision that they did not fit into the regular classes, and yet who were equally misplaced among the blind. They formed an entirely separate group. They were not blind and yet could not carry on school work in the ordinary way. The only thing in common between this group and the blind is the fact that they are both visually handicapped. So great is the difference in the

degree of handicap that there can be no question but that the sight-saving class child should be classified with seeing children in determining the best methods for his instruction.

Psychologically the two types of children (blind and sight-saving) are very different. The blind child, figuratively speaking, sees through his fingers. His chief avenue of perception is tactile. He is aided by his other senses, of course, but in handling educational tools he must rely chiefly upon his sense of touch.

For the sight-saving class child the chief avenue of perception is visual. He gets his impressions through his eyes almost to the same extent as does the child with normal vision. It is true that many of his visual impressions are faulty and indistinct. And it is for the purpose of keeping this avenue of perception through the eyes possible of its best use that sight-saving classes have been established. Any relaxation in this effort tends to defeat the purpose of the class. The problem of instruction for the sight-saving class child narrows down largely to the adaptation of the best teaching methods used with the normally sighted, to the needs of the child with defective vision.

Normal methods cannot be fitted to these children until the sight-saving class teacher has a fair idea of the nature of the physical handicap. Some knowledge of eye hygiene is indispensable. A course in this subject would be valuable, but, lacking this, a teacher can help herself considerably through an independent study of such books as Posey's *Eye Hygiene*, May's *Diseases of the Eye*, and Kerr's *School Vision and the Myopic Scholar*. She may get many valuable suggestions through attending clinics, and in consultation with the oculists who are attending the children in her group. No discussion can be given at this time of the general principles of eye hygiene, but from time to time the connection between this and the teaching problem will be shown.

There are two main reasons why children are retarded in school progress:

1. Mental deficiency.
2. Physical handicap.

Unless proper tests are applied, it is frequently impossible to determine in an individual which is the actual cause of retardation. When a child with seriously defective vision, who is of normal mentality, falls far behind children of his own mental age, it is not surprising. Very often, however, a child has a double defect—mental deficiency and low vision. It is generally accepted that the major defect is mental, and this should determine the final disposition of the case. This child will profit most by the training given in a school for mentally deficient children, but in planning his work there should be coöperation between the sight-saving class teacher and the teacher of the mentally defective so that the sight of the child with the double defect may be conserved.

## THE SIGHT-SAVING CLASS ROOM

### SELECTION

In selecting a room for a sight-saving class preference is given to one which faces east or north-east. Theoretically the light in a north room is steadiest, but every child should have some sunshine during the day, and particularly with children who deviate in any way from the normal that is an essential. In Posey's *Hygiene of the Eye* (page 122) the statement is made that “. . . the hygienic value of sunlight should be given due recognition, which would result in penalizing northern exposures.” And on the same page it is said, “While north light is preferred for many occupations where sunlight is not permissible, this consideration does not apply to school rooms.”

The Code of Lighting School Buildings, which is referred to below, says on page 8: “An eastern exposure is generally considered to be the most desirable for class rooms and a northern exposure the least desirable.”

### SIZE

A regulation sized class room is usually selected because this gives sufficient blackboard space and will afford ample room for the children to move about in their varying activities.



Sight-Saving Class children at work. Mann School, Cincinnati, Ohio. Note overlapping window shades; artificial lighting units; desks adjusted to need; children at typewriters.





## WINDOW SHADES

Adjustable shades are used to control the natural light. The ideal type is of translucent buff or gray colored material, two shades being fastened at the middle of the sash, one pulling up, the other pulling down. Special brackets may be purchased for this purpose so that the two shades overlap and do not permit the light to shine between the rollers.

## WALL COVERINGS

The walls of the room should be decorated in a French gray or buff, with a white ceiling. The surface should be dull in finish, so that no glare will be produced. The selection of color is important because upon it depends the efficiency of the artificial light which is installed.

## ARTIFICIAL LIGHT

Because so many days in winter are dark, and because sight-saving class children are so susceptible to changes in light, ideal artificial lighting should be installed and should be used freely. The best method of procedure to follow in the installation of these lights is the Code of Lighting School Buildings which is published by the Illuminating Engineering Society, 29 West 39th Street, New York, N. Y.

## DESKS

In a room thus lighted and decorated desks of the Moulthrop type are installed. These should be of sizes suitable to the grades which are represented in the room. These desks have an adjustable top which may be slanted easily, thus bringing the work up to the child instead of permitting him to bend down to his work. The surface must be dull in finish and this should be specified in the order. Frequently these desks are sent out with such a high polish that the glare from their surface is considerable. This condition is bad for the eyes of any child.

## TYPEWRITER

For sight-saving class rooms which have grades above the fourth a typewriter is necessary. A standard typewriter with a good table should be purchased. It is suggested that the keys be blanked. The use of the typewriter will be discussed in the section which takes up that question.

## CUPBOARD SPACE

An adequate supply of cupboard space is necessary and it is suggested that these cupboards be provided with locks because much of the material is valuable and should be protected.

## MISCELLANEOUS EQUIPMENT

It is understood, of course, that there should be installed a teacher's desk, chairs, sand table, and a table for lunch. The lunch question will be considered separately, but it may be well to say here that in case there are no facilities for lunch in the school building it has been proved advisable to install an electric hot plate with a supply of dishes and cooking equipment, so that at least one hot dish may be prepared for the children at noon.

## LARGE TYPE BOOKS

Large type books are perhaps the most important item of necessary supplies. At present the only organization publishing these books is the Clear Type Publishing Company, 36 Elston Road, Montclair, N. J. These books are expensive, but in ordering them care should be taken that every grade is supplied with some reading material.

## PAPER

The paper most ordinarily used in sight-saving classes is of rough finish and a deep cream in color. In most schools this has been ruled with lines about  $\frac{3}{4}$  inch apart, and usually the lines are in green. Some schools have this paper put up in

pads and others in loose sheets. The sheets are about 9 x 12 inches. Some of the paper is ruled with the lines 9 inches long, and others with the lines running across, 12 inches long. If these sheets are cut in half or folded, several sizes of paper are available. In addition to this there should be paper without lines for use in arithmetic.

## PENCILS

Most of the work is done with heavy lead pencils, and any type of soft black lead is suitable. Care should be taken, however, that the lead is not so soft that the papers, in rubbing together, will cause the writing to blur.

## NON-SEGREGATION PLAN

### SIZE OF CLASS

After the room is equipped and the children brought to it, it will be found that many grades are represented. With an increased number of grades fewer children can be cared for. It would be ideal if enough classes could be established in any community so that one sight-saving class teacher would take care of possibly four grades, with a maximum number of 16 or 18 children.

### STANDARDS OF WORK

Because these children are normal mentally they should not be segregated in their class rooms. Standards of the sight-saving class should be, so far as possible, the same as those of the regular grade. We are compensating for the eye handicap by giving the children ideal conditions under which to work, and so we must expect from them the same work as we would expect from a child of equal mentality. Further than this, children learn a great deal from one another and the competition prevailing in a normal class is a very valuable part of any child's education. It is understood, however, that sight-saving class children ought not do any great amount of work requiring the use of their eyes in the regular grades, but they have a

wide field open to them in the oral work which is carried on.

Many of our children entering sight-saving classes in the lower grades come from homes and families where at least a high school education is expected of every child. Unless standards are kept to that of the elementary school, it is impossible to pass these children on to high school fully equipped for that type of work. In every way it must be emphasized that high standards be maintained.

### IMPROVEMENT OF EYE CONDITIONS

A good many children so improve under the treatment and care given in a sight-saving class that they are returned to the regular grade. At one time 10 percent of the pupils enrolled in an Ohio Conservation of Vision Department were returned to the schools from which they had come with sight improved. Had they been left without the care given in a sight-saving class, the oculists tell us that the eye condition could not have improved and possibly would have been made worse. The teachers say that these children could not possibly have done the required school work because of their defects in sight. This means that while the child's eye-sight was being cared for, he had not lost a year in school. It is of utmost importance for this one reason that high standards be maintained.

### COORDINATION WITH REGULAR GRADES

This maintenance of standards is obtained by a plan of coördination with the regular grades, i. e., a child enrolled in a sight-saving class attends the regular grade of his same classification for oral work. In general, any work which requires the use of the eyes should be done under the direction of the sight-saving class teacher. This plan necessitates a good deal of moving about through the building. If five grades are represented in the sight-saving class, the children in these grades are attending five different regular rooms for oral work at different times during the day. These five grades are having all their written work and preparation with the sight-saving class teacher.

## PROGRAM MAKING

It is absolutely essential that a careful program be made and maintained in order that each child receive his necessary share of attention during the day. A program of necessity must be flexible, but it ought not vary in the main details.

### MECHANICS OF MAKING PROGRAM

Let us suppose that there is represented in the sight-saving class the first four grades. During the first few days of school the sight-saving class teacher should determine in consultation with the principal of the building the regular grades to which each one of her groups is to be assigned for oral work. From these grade teachers she obtains a copy of the programs which they are carrying out with their children. This will enable her to determine at what hour of the day the regular teacher will be giving the oral work which is valuable to the sight-saving class child.

A simple way of proceeding with the mechanics of program making is to draw upon a large sheet of paper a block of rectangles which will represent horizontally the hours or periods of the school day. Vertically the rectangles will represent the groups which are enrolled in the sight-saving class. For instance, at the period beginning, say, at 8.45, if the teacher reads across the row of spaces opposite that time, she will be able to see what is being done by the first grade, the second, the third, and the fourth. This will be true for any period during the day. The first step in determining what is to be done for each grade at each hour of the day is to write into the proper space what oral work the child takes with the regular grade.

A program may be considerably simplified by the use of colored inks to show movements of classes, and the customary red for "*stop*," green for "*go*," and black for "*rest*," will graphically illustrate what activity is being carried on. If the special teacher will write in green ink every subject for which her children *go* to the regular grade, it will help her to remember when the children move from her room. In the remaining blank spaces are to be placed, first, the work which the chil-

dren do with the sight-saving class teacher, and second, the work which the children carry on independently. The work done with the sight-saving class teacher is usually reading, arithmetic, and typewriting. These, in red ink, show exactly the lessons being taught by the sight-saving teacher at any hour during the day. In the remaining spaces, in black ink, may be placed the work which a child does independently—for instance, a preparation of spelling, geography, or history. A sample program is appended, from the study of which some idea of procedure may be obtained.

### PROGRAM CHECKS

After the program is made it must be checked in three ways: First, for the purpose of seeing that every child has his share of time during the day; second, that the teacher is teaching only one thing at a time; and third, that there are no consecutive periods of close eye work. If we read across the line showing the activities for every grade at 8.45 o'clock in the morning, we shall find that the sight-saving teacher is giving the fourth grade arithmetic. The first and second grades are working alone on phonics, while the third grade is having a spelling lesson with the regular third grade class. We shall see that the teacher is *teaching* just one thing, that she is *supervising* the activities of two other grades which are working independently, while one grade is out of the special room attending oral work in the regular classes.

Three colors are shown then on the first line—*red* for the work the teacher is doing, *black* for the work the child is doing independently, and *green* for the work which is being carried on outside of the special class room. This same check should be carried through every hour of the day, and the special teacher must be careful that she is not trying to teach two arithmetic lessons or two reading lessons, or any combination of two or three grades at the same time.

The second check is of work for each grade. Take the first grade and read down on the program and you will see that for the first period in the day the first grade has independent work in phonics. At the second period the first grade has reading

# Monday

	1st	2nd	3rd	4th
8:45	Phonics	Phonics	Spell.	Arith.
9:15	Read.	Gym.	Geog.	Spell.
9:45	Game	Game	Read.	Read.

## Recess

10:30	Read.	Lang.	Study	Lang.
11:00	Handwork	Read.	Lang.	Spell.
11:30	Story	Arith.	Arith.	Geog.

## Lunch

1:00	Phonics	Story	Arith.	Arith.
1:30	Writing	Writing	Free	Read.
2:00	Free	Free	Read.	Free
2:30	Gym.	Arith.	Story	Gym.





with the sight-saving teacher. At the third period the first grade children are having a game with the second grade children in the sight-saving class room. This may be a number game or a language game. At the next period, which in some schools would come after recess, the first grade child has a second reading period with the sight-saving teacher. If each grade is checked, the teacher will be able to see at a glance whether the pupil has received during that particular day instruction in every subject which would ordinarily be given in the regular class room.

The third check is that which has to do with the eye condition. Sight-saving class children should not be required to use their eyes for any long periods at a time. If the child has a reading lesson which he carries on for twenty minutes, the next period of activity should be something in which the focal distance at which he works is changed. After reading for twenty minutes he might do oral work, which does not require the use of his eyes for the next period. If work has been done at the blackboard, his work might be varied by the use of pencil and paper if eye work is absolutely necessary for two consecutive periods. It is often very valuable to let the child move about the room for a few minutes between periods of work. Sometimes we tell the child to close his eyes and rest for a short time.

It must be ever kept in mind that the first function of a sight-saving class teacher is to save eyes, and every activity should be initiated with that in mind. Eyes come first and education second. Kerr, in his book, *School Vision and the Myopic Scholar*, in discussing the ideal of the sight-saving class, says: "This is quite different from the academic ideal of most school work. For the majority of these children it would possibly be an advantage if they should not learn to read or write beyond the merest rudiments. They should learn the minimum of reading from wall sheets and be instructed that until they are full grown, for them reading is a vice," and he further quotes Horace Mann, who said in 1843, "Reading and writing are not education."

## PROGRAMS WILL VARY

The program which is used as an illustration is perhaps as simple a one as will be found. In every locality the length of period for each subject varies so greatly that in detail probably no two programs will ever be alike. It may be an advantage to work with two classes at the same time in oral arithmetic or phonics, so that certain grades may be combined. A rather serious complication arises when there are A and B divisions in each grade. That makes really sixteen grades in the elementary school. High school and junior high school programs are, for the most part, not much more difficult than those of the lower grades. The same principles apply in each and it must be understood that there may be wide variation and adaptation so long as the fundamentals are not forgotten.

## PROGRAM CONDUCT

### DIVISION OF WORK BETWEEN SPECIAL AND REGULAR CLASS

An actual division according to subjects might be made, assigning reading, writing, arithmetic, handwork, and type-writing to the special teacher. In the regular grade oral work in history, civics, geography, grammar, spelling, music, and manual training may be taken. This division will vary considerably in different localities, the main thing to be kept in mind being that wherever the use of the eyes is involved, the work should be done with the special teacher. For instance, in history, an assignment may be made by the grade teacher. This assignment is brought to the special teacher, who makes it possible for the sight-saving class child to prepare the lesson. It may be done in several ways. In the first place, the material may be found in large type books. In that case all that is necessary is for the book to be placed in the hands of the child, who will go ahead with the lesson just as he would if he were in the regular grade using the small type text-books. A second way of taking care of the situation, where the large type books do not cover the assignment, would be for the special teacher to read aloud from the text-book used in the regular grades. Care should be taken in reading aloud that the lesson is not

retought. There is considerable misunderstanding on this point. A sight-saving class is not a coaching class. It simply makes available, either orally or through large print books, materials which the handicapped child will be unable to use were he in the ordinary grade. If the history lesson which is being prepared calls for the use of maps, it is the function of the sight-saving teacher to provide suitable ones for the pupil. A full discussion of map making will follow in a later section. After the lesson is prepared the child goes back and recites with the normally sighted children, competing in every way with those who are his equal in grade and mentality. The same idea is carried on in civics and in geography. In the language the procedure is often reversed. There is a general tendency to do more and more oral work. Especially in the development of composition is this true. Therefore the child takes part in the general discussion which precedes the written composition. As the regular grade starts to prepare compositions the sight-saving class child is returned to the special room to do his work under ideal lighting conditions, either on the typewriter or with the special paper and pencils which he is accustomed to use.

### INDIVIDUAL PROGRAMS

The sight-saving class child should be responsible for all assignments given to him, and it is a great help if each child knows thoroughly how his program works from day to day. It is suggested that after the teacher's program is prepared an individual one be made for each child, so that he may know in what order his lessons follow each other, and just what he is expected to do at every period during the day. If a clock is placed on a wall at about the height of the eyes of the average child, he will be able to determine for himself just when he is expected to go out for any recitation.

### PUNCTUALITY ESSENTIAL

From the point of view of the regular grade teacher it is not easy, as a rule, to have children going out and coming in to her room at all hours of the day. Most regular grade teachers,

once they understand the situation and appreciate the eye condition of the children who are being taken care of in the special room, will come more than half-way in coöperation; but the special teacher must never lose sight of the fact that it is a source of interruption and possible annoyance if the sight-saving class children do not enter and leave the regular grade room in good order. They should appear at the door of the regular room exactly on time, and should enter in a quiet and orderly manner. When they are dismissed, they should go out of the room in the same way, but in being dismissed they will have to depend upon the teacher or the ringing of bells for a signal that the lesson is finished.

#### ASSIGNMENTS IN REGULAR CLASS WORK

The problem of getting the assignments from the regular grade is worked out in many different ways. In some school systems which require lesson plans from every grade teacher a week in advance it is a very simple matter for the special teacher to know exactly what is going on in every subject. In other schools, however, there is great variation in the preparation of plans for lessons, and there it is the special class teacher who determines the simplest way of finding out plans for the next day and keeping her children prepared in their lessons.

One of the easiest ways of getting assignments for the sight-saving class child and for both teachers concerned is to have one of the children in the regular grade write down anything that is to be prepared or to do any copying necessary. This may be done at the same time he copies his own assignment if he uses a carbon sheet and gives the sight-saving class child the second copy. In some schools the sight-saving class pupil carries a small note book and the regular grade teacher writes the assignment there. It is well to develop in the boy or girl who attends a sight-saving class a sense of responsibility for his own work. However, it is a good plan for the sight-saving class teacher to check up on assignments frequently, seeing each regular teacher several times a week to be sure that nothing is being omitted.

## SPECIAL METHODS

In discussing the question of special methods in connection with the eye work which must be carried on by sight-saving class children, no idea can be clearer than that which Kerr has stated in his book on school vision.\* He says: "The point to remember in this work is that reading and writing and figuring on paper are ophthalmologically bad, but educationally to some extent required, and the actual practice has to be a compromise in which as much good as possible is to be got at the cost of as little damage as can be incurred."

### A. ARITHMETIC

#### AIMS

In teaching arithmetic the aims for the sight-saving class child are exactly the same as for any other group of children. Two things must be kept in mind: First, that the child be prepared for the practical work of everyday life, and second, that he is held to the standard of the regular grade in arithmetic in order to be promoted in a normal manner and attain the requirements in mathematics which are demanded for entrance into high school. In determining procedure in arithmetic it would be well for the sight-saving class teacher to follow the course of study and the text-books which are in use in her own school system. The lessons may be done in several ways:

#### ORAL WORK

First of all is the oral work, which is of greatest value to sight-saving class children. They should be trained to do many more processes mentally than the average child in the grade is required to do.

#### SPECIAL PREPARATION OF SUITABLE MATERIAL

Because the regular text-book is not suitable for sight-saving class use, certain of the more complicated problems and demonstrations must be worked out on the blackboard. The problems may be copied on the blackboard; the child works them either on paper or at another section of the blackboard

\* School Vision and the Myopic Scholar, p. 141.

nearby. Problems may be copied on paper with India ink or heavy lead pencil by the teacher, handed to the child, and he may work them either on paper or at the blackboard. Where there are five or six children in one arithmetic class, it would be necessary to copy a set of problems five or six times in order to make them available for each one of the group. A good deal of time can be saved if the problems are copied once and then cut apart so that each child has one problem, which, as soon as he has finished, he exchanges with his neighbor, so that at the end of the period each child has worked every problem in the lesson. Some arithmetic problems have been put into large type, but it is generally agreed that they are not satisfactory. They aim to supplement in a way the regular text-book, but they are of such a nature that they do not fit easily into all circumstances, and should not be relied upon as a text-book.

### SPECIAL NUMBER DEVICES

In the catalogs displayed by Milton Bradley Company are found a good many devices in the way of cards showing number combinations, etc., which are very good for use in these special classes. Care must be taken in selecting devices from a general catalog to be sure that the print is large and clear, that the paper is of light color, preferably cream, and that it has no glaze. One set of material which seemed to be suitable from the description in the catalog proved to be printed on dark green cardboard with very tall, thin letters; it was absolutely unsatisfactory and could not possibly have been used. Some of the very best material for use in arithmetic may be had from the Harter Supply Company, Cleveland. This is, for the most part, drill cards in number combinations, sets being available in several sizes.

### WORK MUST BE OF HIGH STANDARD

Every effort should be made to compare the progress of the sight-saving class group in arithmetic with that of the progress of the children in the regular grades. This can be done in several ways. Groups from the regular grade may be invited into the sight-saving room to take part in certain arithmetic

lessons. The sight-saving class child who excels in his own small group is often surprised to find that he does not excel when he is competing with a child of normal vision, and the opposite is also true. It is encouraging for a child with defective vision to find out that he can do just as well as the boys and girls who have normal eyes. These children have often been outcasts from the grades from which they came. They could not do the work because they could not see the blackboard or the books and were constant failures because of physical disability. Because they are normal mentally, they appreciate very keenly their failure to keep up with children of the same mental ability, and one of the first and most important problems of the sight-saving class teacher is to restore to the child his confidence in himself. In competing in arithmetic we have one way of accomplishing this.

Another way of keeping up standards is by sending the sight-saving class child into the regular grade for oral work in arithmetic. This can be arranged between the two teachers. It has been found valuable to give to the sight-saving class child the same tests which are taken in the regular grade. If the special teacher keeps in touch with the regular teacher, she will know when tests are to be given and often the regular teacher will be glad to send a copy of the test to her.

Some of the standard performance tests in arithmetic are printed in sufficiently large type to be used by sight-saving class children. It is often very helpful in case they are not printed large enough for the teacher to copy them and thus measure her children by the same scale which is used to determine the rating of the average child in the school system.

## B. READING

### SUPPLY OF MATERIAL

One of the most difficult problems connected with sight-saving class work is the matter of reading material. For a number of years books have been put out in 24-point type on heavy cream paper, on a variety of subjects, by the Clear Type Publishing Company. Every year new subjects are being

added, but the cost is still almost prohibitive to school systems maintaining sight conservation classes.

## LIMITATIONS

We learn to read for information and for pleasure. If the sight-saving class child, as Kerr says, is to be discouraged from forming reading habits as far as possible, we are cutting him off from a source of pleasure and information, and, so far as possible, we should make some effort to substitute other activities for at least a part of the time which would ordinarily be given to reading. Our children cannot go to the public library and get books because the type is not of sufficient size to be suited to their needs. If by chance the child is allowed to do so, he may possibly break down in one evening's reading all the good which has been accomplished in many days in the sight-saving class. When one considers that it is possible for many of the sight-saving class children to read the smallest type, a thing which is particularly true of the myopes, and realizes that in doing so the degree of myopia may be increased, it is easy to understand how essential it is to substitute other activities for reading habits. With far-sighted children, or hyperopes, the eyes are constantly under a strain no matter whether the work is near or at some distance. For that particular type of child reading habits should be discouraged. In some of the static cases there is no particular strain to the eye involved in reading. These children simply cannot see the small type, and in their efforts to do so, the nervous strain is intense. The sight-saving teacher then has as her problem the minimum amount of reading that is consistent with the carrying out of school activities. During the school day the children must read geography or history lessons. It would be well then to omit a reading lesson as such. A geography lesson may well be a reading lesson. It is suggested that sight-saving class teachers interest their children in club activities, and that some effort be made to satisfy a child's desire for stories, through reading aloud at home by the parents or brothers and sisters.



## C. WRITING

### RUNNING PRINT DESIRABLE

In carrying on any school work, hand writing is one of the essentials. It should, of course, be reduced to the minimum for children with seriously defective vision, but it is nevertheless very necessary. The aim for sight-saving class children in writing should be legibility. Speed is a minor consideration. The type commonly used in newspapers and books is probably the most legible matter which we meet in ordinary use. The writing which most nearly approximates this is the running print or manuscript writing. In England this is taught entirely in the lower grades, and it is not until a child is fairly well advanced that any script is used. Much is to be said for this. The letters are simple, all unnecessary lines are eliminated, and the legibility cannot be questioned. It is interesting from a pedagogical standpoint that only two concepts of a letter are necessary for a beginning child using this method: Capitals and small letters. As it is ordinarily taught, a child must learn a capital and small letter in script and a capital and small letter in print, making four concepts for each letter.

For children who enter sight-saving classes in the first grade and who will probably continue in the class throughout their school life, running print might well be taught for use at all times.

### CHILDREN WITH ESTABLISHED WRITING HABITS

However, sight-saving class children are admitted to the special class at any time and come at all ages and grades, so that writing habits have already been established, and while it is possible to teach them running print some other disposition should be made for these children. It is not possible to follow very closely the ideals and aims of most of the writing departments in the public schools. Too much emphasis is placed on fine line, shading, and speed. In this connection it is well to remember that sight-saving class teachers must always strive to save sight. It is impossible to follow some of the accepted ideals in writing when this is kept in mind. With the older children who enter the sight-saving classes with estab-

lished habits it will be necessary to require the writing to conform to sight-saving class standards. Usually these children are miserable writers, and come to the class with faulty concepts of the letters. It is not difficult for them to change their ideals and most children appreciate the increased ease with which they are able to produce acceptable work. When sight-saving class children return to the regular grades it is found they will quickly adapt themselves to the style of writing required in the regular public school classes, but with an increased legibility over that with which they entered the sight-saving class.

## SCRIPT

When script is used, the nearest we are able to approximate the running print is in a clear round hand with each stroke of equal width. The vertical handwriting in vogue a few years ago most nearly approximates the ideal for sight-saving classes. On paper with lines ruled about  $\frac{3}{4}$  of an inch apart capitals should be made about  $\frac{1}{2}$  inch in height. The capitals do not completely fill the spacing between lines, and in this way legibility is increased. Legibility is always increased by adequate spacing between words and between lines.

## SIZE OF LETTERS MADE ON BLACKBOARD

Size of letters may be carried to an extreme. A sign board with letters six feet high is legible at many hundreds of feet while it is absolutely impossible to read it at two feet. This fact should be kept in mind when writing on the blackboard. Capitals three inches in height and small letters about one and one-half inches will take care of the average situation at the blackboard provided the chalk is medium soft and the lines are of even width. It may be well to say at this time that the blackboard should always be clean and free from dust. If the blackboards are erased with a downward stroke and rubbed off with a dustless duster, it will not be a difficult matter to keep them in good condition. The size of the blackboard writing will vary slightly. The same clear round hand or running print should be used for all blackboard work. Care should always



A lesson in reading. Note blackboard printing and writing and blackboard globe.



be taken that the writing is well spaced, and that there is no crowding of words or letters.

There are three instruments usually used in writing: 1. Crayons; 2. pencils; 3. pens—using respectively chalk, graphite, and ink as materials.

### CHALK

The chalk should not be too hard, for that gives a thin gray line. On the other hand, chalk that is over-soft produces a large amount of dust. This makes the blackboards gray, and the writing on a gray blackboard is never as clear as when done on the darker surface of a clean slate. In every school system there is a medium grade of chalk which may be had. It is not necessary to purchase any particular make of chalk for sight-saving classes. Medium soft chalk for use in any school system will answer the purpose very well. "Old Faithful-Sterling," put out by the American Crayon Company, is among the many kinds that have proved satisfactory.

### PENCILS

Pencils offer very nearly the same differences as chalk. The lead should be black and soft, so that the lines produced are clear and even. A second feature to be desired is that the pencil mark does not rub easily. One lot of pencils used in sight-saving classes fulfilled every requirement but broke so easily that they were abandoned. Two satisfactory types of pencils are Weatherproof Faber, No. 6639 (Faber Pencil Company), and Eagle Auditor, No. 286 (Eagle Pencil Company, New York). Because the pencils are soft they wear down quickly. When sharpened by hand, the children break the points and whittle away a pencil in a very short time. It will be wise to have a pencil sharpener in each room. This should be of large size in order to take the pencils which are commonly used in sight-saving classes. Some pencil sharpeners are made only for the smaller size pencils, and the large or giant pencil sharpener should be definitely specified in a requisition. The children should be taught how to use these pencil sharpeners, for, unless they are watched, they may waste the pencil almost as rapidly as they do when using a knife.

## PENS

Two types of pens have been used with some success. The one is Speed Ball No. 4 (Hunt Pen Company), and the second, Esterbrook Drawing and Lettering Pen, No. 1 (Esterbrook Pen Company). With the older children it was found necessary to make permanent copies of a good deal of the work. In note-books the pencil writing rubbed so that the notes became illegible and a source of eye strain. The average pen did not answer the needs of the student because the lines produced were entirely too fine. No pen so far has been absolutely satisfactory for sight-saving class use, but the two mentioned are the best that have been found. These are rather expensive. The Esterbrook pen retails for 10 cents, or \$1.00 a dozen, when purchased in lots. It is made with a flat disk at the point and requires some skill to use because this disk must be kept flat on the paper at all times. If the edge is used a fine line is produced in one direction and a heavy line when the disk is placed flat on the paper. With the Speed Ball pen the point is in a cup shape and is much easier to use.

In some sight-saving classes the older children have used very heavy fountain pens. These are not entirely satisfactory. They are expensive, easily lost, and are apt to make a shaded line which is most undesirable.

## QUALITY OF INK

School ink is usually very thin and a blue or gray color. India ink is quite satisfactory because of its color, but it is expensive and apt to get thick. Some sight-saving class teachers have found that a mixture of India ink and school ink, half and half, answers every need of the children. The quality is good, the color is good, and the expense about half that of India ink alone.

## LINES NOT NECESSARY FOR BLACKBOARD

There has been a good deal of discussion as to whether lines should be ruled on paper and blackboards, with a growing tendency toward the side of those who stand for unlined surfaces. Under no condition should blackboards be ruled with

white lines. When the white chalk writing is added to these white lines, it forms a source of eyestrain, especially in astigmatic children. The lines alone would cause eyestrain. Some blackboards have been ruled with a black wax crayon (*Staonal* No. 1, American Crayon Company, Sandusky, Ohio). This does not offer the eyestrain which is produced by the white line, and the difference in texture of the surface assists the children in keeping their writing well spaced and straight. Some sight-saving class teachers feel this is an asset with children who are beginning to learn to write. It might prove helpful if a small space low on the blackboard were ruled in this way for the beginning children. But in most cases the unlined blackboards will be most satisfactory, if the teacher requires the children to write neatly, space lines well and write straight across the blackboard. Good legible work depends entirely upon what the teacher demands and expects from her children. If she cannot control the legibility and spacing of the writing by establishing a sentiment for this in her class, she should use the arbitrary means and rule the blackboard. It is much more desirable for the children to understand why they should use the unlined boards, and if it is made a privilege for them to write in this way, they will soon coöperate in producing a clear legible writing.

#### LINES FOR PAPER

These same ideas may be applied to the use of lines on paper. Several years ago there was a good deal of experimentation with different colors of lines and different quality of paper. After trying out blue, purple, and green lines on the manila paper, the green lines were found to be most satisfactory to the children. We have accepted the lines on the paper without much thought of using any other method. Recently, however, there has been a tendency to use unruled paper, just as there has been a tendency to use unruled blackboards. What is pedagogically right for normally sighted children in the regular grades is probably right for sight-saving class children. In the regular grades children use lines quite generally. Lines will be found even in the college notebooks and are quite generally

used in high school. They do help in making written work clear and easy to read. In mathematics it would seem best not to use lines, but in the sight-saving classes, where the whole aim is for legibility, the children are apt to crowd their work considerably unless very closely watched. Theoretically the idea of not using lines is all right, but from many practical aspects they are a great help in producing the end desired. It is suggested that both kinds of paper be purchased for sight-saving classes, and, as far as possible, the children be encouraged to use paper without lines, but where legibility must be sacrificed for the sake of plain paper, there is no question but that the ruled paper should be substituted.

#### FORMAL WRITING LESSONS IN FIRST TWO GRADES ONLY

Except in the first and second grades the sight-saving class children should not be given formal writing lessons. There will be opportunity enough in the written work required to establish good writing habits. Formal writing lessons, in addition to the written work which is done every day, are an additional tax on eyes that are already weak.

#### AIMS IN WRITING

The subject of writing causes as much discussion among sight-saving teachers as any other topic. They agree, however, on these fundamentals: First, that the work must be legible; second, that the writing should be simple, of the vertical type; and third, that the stroke should be even in width and without shading. Just how these ends are gained varies considerably with the teacher. What one teacher accomplishes with lines another accomplishes without lines, and so long as the desired end is gained and no eyestrain is produced, the method the teacher has used is not of great consequence.

#### D. TYPEWRITING

The average teacher, on beginning sight-saving class work, does not have any experience in the theory and methods of teaching typewriting and is not able to use a machine. For this reason it is necessary to go further into the question of

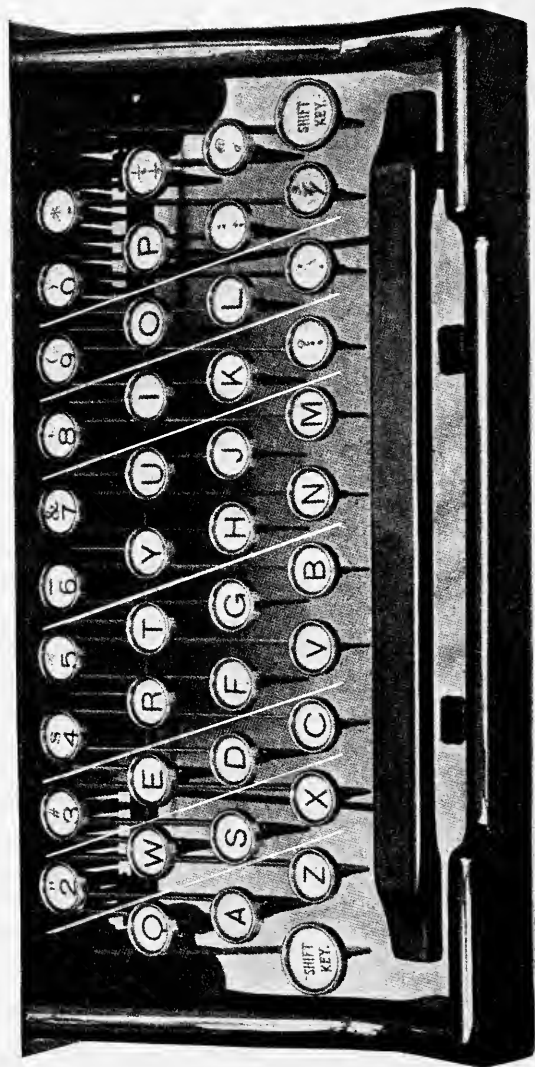




# CHART OF THE STANDARD TYPEWRITER KEYBOARDS

Correct Fingering Indicated by Figures

LEFT HAND								RIGHT HAND			
4	3	2	1	1	1	1	2	3	4	4	



general methods here, rather than to limit suggestions to the adaptation of methods already established. The ideal thing for a sight-saving class teacher to do is to take a short course in typing, so that she may become familiar with the best methods in practice. If this is not possible, she may observe a beginning class or make a study of a typewriting manual which is in use in her own school system or in some recognized business school.

#### NOT TAUGHT AS A VOCATION

Two points to be kept in mind in teaching typewriting to sight-saving class children are, first, that typing is not taught as a vocation. Typists must have good eyes in order to do the many things which are required in connection with typewriting. They very often do filing and look up addresses, as well as take notes in shorthand, and this is beyond anything which we may expect of a child with defective vision.

#### TOUCH METHOD ESSENTIAL

The second point to remember is that it is "touch" typewriting which is being taught in the sight-saving class and that this system is the method which is being taught in every good business school. We are fortunate in having this as a fundamental principle in teaching typing. In the use of typewriting a child may produce thoroughly acceptable work without eyestrain.

#### BEGIN WITH FIFTH GRADE

Typewriting lessons for sight-saving class children start as a rule about the fifth grade.

#### SELECTION OF MANUAL

The basis of procedure is a manual of touch typewriting that may be chosen after consultation with some one directly connected with the commercial work of the high school in the local community. These manuals are intended for the use of adults and while they may form a very satisfactory basis for procedure, they need to be simplified considerably for use with children.

## FIRST STEPS ILLUSTRATED FROM "CURRY"

Because Curry's *Touch Typewriting*\* is used extensively in Ohio, and because it has been reprinted in large type, it has been used as a basis for the suggestions which follow. It must be remembered that any manual may be adapted in the same way and that the lessons which follow are not final. They merely suggest procedure.

In the preliminary discussion, Curry tells how the machine should be opened and closed, names the various parts, and tells in general how they are used. He then explains the position of the hands and body in writing, and gives general directions for practice. Decided emphasis is placed on accuracy, and the beginner is cautioned to proceed slowly. All these ideas may be presented to a child in very simple terms.

In Curry the little finger of the left hand is used as a starting-point in placing the hands in proper position. This finger rests on "a." The other fingers of the left hand follow along that row of keys resting in succession on s, d, and f. The child is then told to skip two letters and with the first finger of his right hand resting on j, the other fingers follow on k, l, ;. The thumbs rest on the space bar. It is not necessary to name the keys (except "a") to the child at this time. It is enough to place the fingers on successive keys.

### FIRST LESSON: CURRY

The first lesson in Curry consists of the following exercises:

fgtffbfrfv  
jhjynjujm  
gfgrgvgtgb  
hjhuhmhyhn  
fgkjtftyfbjn frjufvjm  
gfhjgrhugvhm gthygbhn

Each exercise is to be written across the page four times. This is, of course, too much to ask of a fifth grade child. It will be noted that the first line uses only the first finger of the left hand. The second line uses the first finger of the right hand. Lines three and four are the reverse of the first

\* James S. Curry, 1516 Almeda Ave., Cleveland, Ohio.

two, while the fifth and sixth lines take each hand in alternation.

The child is now told that the little finger of his left hand rests on "a" and that the first finger of the left hand rests on "f." If with the first finger of the left hand he reaches one key to the right, he will strike "g." The first exercise for the sight-saving class child then will consist merely of the first two letters of the first exercise in the Curry manual. It will appear thus:

fg fg

Care should be taken that the space bar is struck with the thumb of the right hand, because a finger on the left hand has made the last letter. It may be noted here that the reverse is true. If the right hand strikes the last letter, the thumb of the left hand strikes the space bar. In this lesson and in every lesson where a new key is being introduced the teacher works with the child, and there should not be long periods of mechanical practice at this point. More will be accomplished in two ten-minute periods with the teacher than in hours alone.

The second letter to be introduced is "t." The child is told that by reaching up to the right, just over "g," he will strike "t." He then practices this:

ft ft

For a few minutes he may work alone writing:

fgft fgft fgft fgft fgft fgft fgft fgft fgft fgft fgft fgft fgft fgft

In this manner all the exercises in the first lesson of Curry may be developed—the right hand as well as the left. It may take several weeks to learn thoroughly all the letters struck by the first fingers. There should not be any haste in the matter. Take plenty of time. Aim for accuracy and, above all, have the children write slowly.

## SECOND LESSON: CURRY

The second lesson in Curry asks that four lines of the following words be written:

vaunt  
hungry  
murmur  
gruff  
grammar  
funny  
barb  
jaunt  
juryman  
naught

With the addition of "a," which the children are told from the beginning is their guide key, on which the little finger of the left hand rests, the words given above use only the letters struck by the first fingers. Before using these words for practice it is a good plan to introduce some of the simpler words which the child knows, such as: jay, jam, gray, ham, brag, tag. Sometimes the children will make words for themselves, using the letters they know. There is material here for from ten to fifteen lessons, depending upon the individual receiving instruction.

### THIRD LESSON: CURRY

The third lesson in the manual asks that the words given above be written consecutively, thus:

vaunt hungry murmur gruff grammar funny barb jaunt juryman naught

This presents a slightly different problem from that of writing the same word over and over. The children will not remember the list, so it is a good plan to write the words on the blackboard at the level of the child's eyes when seated. The typewriter may then be moved directly in front of the copy so that these words are easily followed. Children should not be permitted to watch the keys even if they are blanked. It is better to give them something definite to look at, by way of copy, rather than the negative direction, "Do not look at your keys."

### FOURTH LESSON: CURRY

Still using the first fingers, the writing of phrases is introduced in the fourth lesson by Curry. He asks that four lines of each phrase be written.

an untruth  
a furry muff  
at that man  
a funny jury  
my grammar  
a gruff man

At the end of each phrase the space bar is struck twice. In any typewriting two spaces are always made after a period and it is probably with that idea in mind that the double spacing is introduced here. A line of phrases appears thus:

an untruth      an untruth      an untruth      an untruth      an untruth

### PRACTICE ALONE

By this time a child may practice alone, but the teacher should observe from time to time the position of the pupil at the machine and the manner in which the letters are being struck. As soon as the first fingers have been mastered thoroughly, the second fingers are developed in exactly the same way. After certain arbitrary exercises, words and phrases are written, introducing the new letters learned. This method is continued until the whole keyboard is mastered.

As each lesson is finished it is a very good plan to fasten it into a note-book cover, marking each mistake and dating the sheet. In this way a child may watch his own progress from day to day until perfect work is produced.

### OTHER METHODS

This is only one system of teaching touch typewriting. Any good manual may be adapted in the same way. But no matter what method is used, certain points should be kept in mind constantly. The child should not be permitted to use his eyes to watch the keys or the work that is being written. There should be no back spacing or erasing. He should work slowly. Accuracy should be his aim.

### POSITION OF COPY

Any copy which is given to the pupil should be placed immediately in front of him. This may be done by writing it on the blackboard or through the use of one of the stands which may be purchased, as a rule, from the typewriter company. It

should be remembered, however, that such a stand should not be attached to the typewriter or the typewriter table because the vibration of the machine causes the copy to move rapidly and as a result produces eyestrain. Copy should not be placed to one side or laid flat on the table. A child who uses copy in this way twists his body to one side and bends his head over into a position which only increases the eyestrain.

## TYPEWRITER FOR REGULAR SCHOOL WORK

As soon as a child has mastered the keyboard he should start at once to use the typewriter for regular school work. The spelling lessons are usually the first to be typed. Later, when the marks of punctuation and the use of the shift key for making capitals have been acquired, a child may begin to write simple language lessons. These lessons consist of the written work which is required by the regular grade teacher. When a sight-saving class child prepares notes for his own use, he must do it with pen and ink, for he cannot be expected to read back the small type which is used on some of the typewriters in sight-saving classes.

## SIZE OF TYPE

Any standard make of typewriter may be used. When the machine is purchased, it would be a good plan to investigate the various kinds of type which are available and to purchase that which is largest and most clear. One type which is used in making bulletins consists entirely of capital letters. This type is very large and clear and has a valuable place in school work, but in teaching small children there is a question as to whether or not it is a good practice to use an alphabet made entirely of capitals. Between this type and the small type used ordinarily there is a type consisting of both capitals and small letters which may prove very good for sight-saving class use. It runs about eight or nine letters to the inch. The trade name for type of this size varies with different machines, but it can be easily recognized from a catalog which shows sizes of type. A soft black ribbon on a typewriter makes a heavier letter than a hard ribbon. It might be well to ask for soft ribbons with a machine.



## PORTABLE TYPEWRITERS RECOMMENDED

Portable typewriters are most valuable for sight-saving class children, particularly in the upper grades and in high school. They are easily handled and may be used even during a class period for required written work. So much written work is expected from high school children that the eyestrain involved in this phase of high school alone would make the attendance of sight-saving class children almost impossible unless they were able to do the written work on the typewriter by a touch system. The chief value in the portable for this purpose is the ease with which it may be handled and the fact that work may be done at any time.

## STUDIES TAKEN IN REGULAR CLASSES

In the subjects which have been discussed the sight-saving class teacher takes the initiative. She is responsible for the method of procedure and for the results obtained. The following discussion deals principally with the way in which the sight-saving class teacher coöperates with the teacher of the regular grade so as to make it possible for children with defective vision to participate in regular class work.

### A. LANGUAGE

Participation in the language lessons presents as few difficulties as any of the subjects taken by sight-saving class children in regular grades. Methods vary considerably in different localities, but with the growing emphasis on oral English the use of children's eyes is reduced to the minimum. Where any written work is required, the sight-saving class children are returned to the special room to do it under supervision.

## BOOK REPORTS

Book reports which are required in junior and senior high schools offer a particular problem. Not many texts are available in large type. The supply is most inadequate in this respect. However, if a child in the regular grade chooses the same book for the report which is selected by the sight-saving

class child, it may be read aloud by the child with normal vision. If the book is not too long, the sight-saving class teacher may read it aloud. However, great care must be taken that the report is absolutely independent work on the part of the sight-saving class child. There is a tendency for the sight-saving class teacher to stress the most important topics and to give help in outlining reviews. With the older children who have learned to use a typewriter the final copy may be made on the typewriter after the preliminary work has been done with pencil on the wide-lined paper.

## FORMAL GRAMMAR

Where formal grammar is required, it is necessary that a good deal of copying be done by the sight-saving class teacher. There is no formal grammar text in large type, and it is doubtful whether one will ever be printed, because grammars vary considerably throughout the country and no one text could be made which would satisfy all demands. The copying should be done from the text in use in the regular grade. It should be done with India ink on manila paper, care being taken that each page and article be numbered to correspond with the regular text. If these pages are bound together in note-book form, they may be used several times and are valuable at the end of a term for purposes of review. Where there is a printing school connected with the public schools of a city in which a sight-saving class is located, it is often very glad to print in large type words or lessons for sight-saving class children. If a large type book is used as a model, these lessons may be printed on the same kind of paper as that used in the large type books.

## B. HISTORY

There is considerable history material in large type. In case it is not the text used by the regular grades, the lessons may be read to the sight-saving class child as they are assigned from the regular text-book, or they may be read by a pupil who is studying the same lesson. The history books in large type may be used to parallel the lessons as they are assigned and often regular grade teachers are glad to have additional text-book

material introduced into the history lessons. It is found frequently that the regular grade teachers borrow the large type books and use them in connection with the lessons. It will be well to mention here that the sight-saving class children should keep note-books for every subject which is taken with the regular grades. The history note-book, for instance, may be simply a few sheets of wide-lined paper fastened together in a cover of heavy construction paper. In this note-book may be kept the assignments or notes on lessons which the children of the regular grade are accustomed to keep for themselves. Because there is no text available, this often serves as a basis for a review at the end of a semester.

### C. GEOGRAPHY

So far as texts are concerned, geography offers the same problems as history. There are a good many texts available on the subject in large type; probably the best material is contained in the Nellie Allen Geographical Readers, which have been reprinted in large type. In connection with geography, the sight-saving class teacher probably has her biggest work in providing maps and illustrations for the sight-saving class child who is unable to get his ideas from the small pictures used in the average geography. A section will follow which will deal entirely with the problem of maps and map making. In geography it will be well to keep a note-book, just as was suggested for history.

### D. SPELLING

Spelling offers a little different problem. There is such a variation in the methods of teaching spelling that no particular rule can be laid down for the procedure of the sight-saving class teacher. Where the lessons are taught orally and the recitation is mainly oral, the sight-saving class child may attend the spelling class with the regular grade children. Where there is a text and the lessons are assigned from it with the idea that later the work will be written by the children at the dictation of the teacher, the problem is very different. In this case the text must be copied by the sight-saving class

teacher. She will make, in note-books, a copy of the text just as it stands, taking care to number the pages and articles to correspond with the spelling text. The sight-saving class child may then study from this enlarged copy in much the same way as the regular class children study. When it comes to reciting the lesson, two things may be done: (1) If the regular class room is well lighted and the sight-saving class child has a seat where the light is good, he may carry with him pencil and wide-lined paper and write the spelling lesson at the dictation of the regular class teacher at the same time that the other children in the room write it. (2) Where the light is bad, and where, on dark days, there is not adequate artificial lighting, it is not wise to let the sight-saving class child do any written work with the regular grade. In this case the sight-saving class teacher may take a few minutes to dictate the lesson which the sight-saving class child has prepared.

#### E. NATURE STUDY AND HYGIENE

In nature study and hygiene the same ideas are carried out. The regular class teacher is responsible for the work which is done by the sight-saving class child.

#### F. TESTS AND EXAMINATIONS

All papers should be graded by the regular teacher, but it is important that these papers be sent back to the sight-saving class teacher so that she may know in what particular way she must supplement the work so that the sight-saving class child may not drop behind the rest of the class. The same thing is true in examinations and tests. Usually the examinations or tests are written on the blackboard, the regular grade children being given pencil and paper and required to answer the questions. Here the sight-saving class child cannot do the work from the blackboard, and it is often inadvisable for him to attempt to do anything which requires as much writing as this in the regular class room. If the regular teacher will send a copy of the examination questions to the sight-saving class teacher, she can recopy them or dictate them to the child with defective vision, and he can answer them either on the wide-

lined paper or on the typewriter. In either case the answers to the examination questions should be returned to the regular grade teacher for correction. If the regular grade teacher cannot supply a copy of the questions, some child in the room may be asked to copy them or the special class teacher may go in and copy them ahead of time. When reports are made, the card should be sent to the regular class teacher for the grades in the subjects for which she is responsible, the sight-saving class teacher filling in the grades for arithmetic, reading, etc.

## MAPS AND MAP MAKING

Very few maps can be used in their original condition for sight-saving classes. Usually they are too detailed and not definite enough in outline. Practically every map must be adapted in some way for sight-saving class use. In history and geography particularly the sight-saving class children need a great number of maps, and because they cannot use the maps in the regular text-books, equivalent maps must be provided by the sight-saving class teacher.

The following is a discussion of ways in which some maps have been adapted for this use. It is simply a suggestion and certainly is not final in any way.

### A. GLOBES

#### GLOBES RE-COLORED

In ordering equipment for a sight-saving class room a 12-inch or an 18-inch globe should be included. This is of the ordinary type, but in placing the order a dull finish should be specified. As a rule, the continents are not clearly defined against the oceans and the sight-saving class teacher may re-color the continents in deeper shades. This may be done with India ink or with water colors. India ink may be obtained in six or eight colors. After the continents are colored, they may be outlined with black India ink.

#### SMALL GLOBES

Six-inch globes for individual use have been prepared in the same way. These are valuable because they may be carried to

the regular class room when necessary. The continents, of course, are very small and should not be used for any detailed work.

### HOW TO MAKE RELIEF GLOBES

Relief globes are very expensive, but a globe of this kind may be made very easily by the sight-saving class teacher and may prove helpful. Take an old globe, perhaps one which has been discarded by the regular class teacher, and glue a string around the outline of the continent. When this is dry, cover the continent in relief with putty. It will take several days for this to harden. The continent may then be colored and shellacked. If the shellac, after drying, gives too high a polish to the globe, it may be gone over again with flat varnish which leaves a soft dull finish. Flat varnish is a very good thing for a sight-saving class teacher to have on hand, for with it she is able to remove gloss from almost any painted or varnished surface.

### BLACKBOARD GLOBES

Blackboard globes may be had from a number of school supply firms. They are good for teaching zones and meridians. To draw the continent on a blackboard globe is a very difficult matter and is not extremely satisfactory, even after it has been accomplished, because with the mass of outline the children are often unable to determine which is land and which is water unless the oceans or the continents are colored. On some blackboard globes the ocean has been painted green or blue, leaving the continent in black. Chalk lines show equally well on either surface, but the blackboard globes are not a great asset until after this coloring has been done.

### B. BLACKBOARD WALL MAPS

The blackboard wall map is probably the only map which can be used without great change. Two which are satisfactory are the Nystrom maps, Empire Series (75 x 56), and Progressive Series (50 x 54). These are made by A. J. Nystrom and Company, 2249 Calumet Ave., Chicago, Illinois. These maps are

available for all continents. There are a number of other wall blackboard maps, but a good many of these are spoiled for sight-saving class use because of the many lines of latitude and longitude in the background. Any map which has too many unnecessary lines on it should be avoided. Latitude and longitude may be indicated in the margin and connecting lines drawn when necessary. Avoid a checker-board effect in any map. Maps are drawn either with white or yellow lines on the blackboard cloth. The colors seem to be equally good. These maps should be used as a basis for one project at a time—rivers, for instance, or products, or cities. Too many features should not be put in at one time; the maps should be kept very simple. Colored chalks have proved valuable in their use in connection with this map.

### COLORED WALL MAPS

Only a few of the ordinary colored maps are good for sight-saving class use. There is usually too much detail, and the colors do not contrast enough to show the difference between states, countries, and oceans. If a map of this sort must be used in a sight-saving class, it may be improved considerably by outlining with India ink. The best colored wall maps so far seen are the Atwood Series, put out by the Dobson-Evans Company, Columbus, Ohio, and the Rand-McNally maps, Columbia Series. These do not need any changes. The Rand-McNally Company will provide their maps without any printing if desired. A good small map (about 18" x 24") is Hart's History Aids. There are ten maps in the series, showing the growth of the United States from 1748 to 1919. These are put out by Bacon and Vincent Company, 49-51 E. Swan St., Buffalo, N. Y. These do not need to be changed in any way and are very helpful.

### C. DESK MAPS

Because desk maps are small and easily handled they are very valuable to the sight-saving class child, since they can be carried to regular class recitations. One of the best types of desk maps for sight-saving class use are those put out by Milton

Bradley Company (Geographic Series 8049). In buying desk outline maps avoid any map which has lines of latitude or longitude drawn in the background. One set of maps seen had such lines meeting at a point representing the North Pole. While the outline of the continent was good, it was absolutely impossible to use the map as it was. If a map of this sort comes into a sight-saving class, it may be cut out and remounted on a plain sheet of paper. It is often good to use tan, blue, or green construction paper as a background. Most desk outline maps are improved if the outlines are made heavier.

### NO MAP DRAWING

No sight-saving class child should be required to use his eyes for the purpose of drawing maps. To meet the needs of such an assignment by the regular grade teacher the sight-saving class teacher can cut out a stencil of the map desired from dark-colored construction paper. A plain piece of white or cream paper may be clipped to the back of this stencil; the sight-saving class child then has a map on which he may note simple features. This paper may be replaced as often as is necessary; the outline of the stencil will serve for the production of many maps.

### MATERIALS FOR COLORING MAPS

In coloring maps, India ink or water coloring has proved most satisfactory. Crayon, especially wax crayon, should never be used. It shows each stroke that is made; it does not give a smooth, even color, and has a glossy surface, which is most undesirable. India ink comes in all colors, as has been said. Liquid Tempera Colors (American Crayon Company) are very good and dry with a dull finish. In coloring maps the work should be so planned that the adjoining colors contrast—for instance, dark blue and purple should not come together.

### EXAMPLE OF MAP MAKING

One of the best maps produced during the summer course was based on a Finch Topography Map of the United States (Dobson Evans Company, Columbus, Ohio). This map is very simple, with a good color outline of the states in blue.



The map was held up to a window, and the outline of each geographic division traced on Tonal Paper (Milton Bradley and Company). For instance, the New England states were traced on green Tonal paper, cut out and pasted on the original map. The Atlantic states were cut out in the same way in yellow, the southern states in blue, etc. After each section was fastened on the states were outlined with black India ink. A map of this sort could be completed a section at a time as the class proceeds in geography. Unfortunately, the map of the United States is the only one of the series completed so far. They are splendid sight-saving maps, and it would be well to be on the watch for others of the series.

This same idea can be applied to almost any desk map. Using a Milton Bradley desk map as a pattern, a map of North America was made which showed Canada in yellow, the United States in green, and Mexico in red. The whole thing was mounted on gray construction paper and outlined with black India ink.

### SILHOUETTE MAPS

Some sight-saving class teachers have found the silhouette map useful. It may be of black on white or white on black. One map of Ohio was cut from black and mounted on heavy white drawing paper. The capital was designated by a gold star, large cities were shown with dots of white ink, and the principal rivers drawn in white ink.

### OTHER MATERIALS FOR MAPS

Light-colored window-shade cloth and sanitas, a dull finished oil cloth, have been used as a basis for maps by sight-saving class teachers. Blackboard cloth is good also, for it can be rolled up and carried to the regular class; with an outline painted in white, it may be the basis for a good many projects.

### NO NAMES ON MAPS

Do not write on the maps the names of states, cities, and rivers. A map prepared in this way is so confusing that the outlines are often lost. The best plan is to put a number near

the feature to be emphasized and below show by a key just what is meant. On the Finch map described above a small square of green was pasted in one corner and opposite were printed the words, "New England States." Other squares showed the names of the remaining sections. Make all lettering neat and clear. Mounting maps on construction paper will make them last longer. Well-mounted maps will last for several seasons if cared for properly. Large envelopes clearly labeled will help in cataloging and finding maps when needed.

## POSTERS AND ILLUSTRATIONS

### LIMITATIONS IN USE OF PICTURES

Teachers of normally sighted children depend a great deal upon illustrations to put over ideas presented in a text. The average school geography or history book contains many illustrations which make the subject a real, living thing to pupils. The sight-saving class children either do not see the pictures or get false conceptions of them because of the small size or the indistinct outlines. It is a very important part of a sight-saving class teacher's work to make it possible for pupils to have illustrative material.

### SILHOUETTES

One of the earliest ideas along this line was the silhouette. Mother Goose Silhouettes (Flanagan and Company) were among the first pictures which were used without considerable change. With this idea as a basis, other silhouettes were made illustrating all types of activity. They are simple, with a minimum of detail, but they do not satisfy so far as color is concerned.

### USE OF COLORS

There are a good number of sets of simple line drawings, such as Poster Patterns based on "Little Folks of Many Lands" (Milton Bradley), which may be colored by the sight-saving class teacher. Two sets, Birds to Color and Flowers to Color (Ideal School Supply Co., Chicago), are very good. They are considerably improved for sight-saving class use if outlined



Sight-Saving Class room at Sands School, Cincinnati, Ohio. Close-up of posters, maps, sand table showing Eskimo Scene, etc.



with India ink after coloring, and mounted on construction paper of harmonizing shade. The Ideal School Supply Company of Chicago has a number of built-up posters that are very good. There are sets entitled "Birds," "Flowers," "Child Life," and "Hiawatha." These consist of posters which are very simply outlined. In the package are a number of sheets of colored paper with corresponding outlines. These may be cut out and pasted on the original outline. For instance, in the posters of flowers the outline of the leaves is printed on the green paper. When they are cut out, the green leaves are then mounted on the background of the original poster. After building up some of these sets, the sight-saving class teacher can work out all sorts of ideas for herself.

### USE OF CUT-OUT PICTURES

Another interesting project using pictures has been worked out in a sight-saving class. In the *Ladies' Home Journal*, *Good Housekeeping*, and several other magazines of this type, there are beautifully colored advertisements which show foods prepared ready to serve. These pictures were cut out, mounted, and outlined with India ink, each one on a separate sheet of construction paper. At one corner was printed very clearly a price, *i. e.*, on a picture showing an orange and a glass of orange-juice, the price, 5 cents, was placed; on another dish showing bacon and eggs the price, 15 cents, was written in the corner. These posters were put in the chalk tray around the room and were used to represent a cafeteria. The children in the sight-saving class chose their lunch for the day, one child being the cashier. Through the use of toy money a very splendid lesson was given in division and multiplication, as well as in the use of United States money. It takes some time to collect a set of posters of this sort, but they are extremely worth while and may be used in a number of different ways. The same set may be used as the basis for a lesson in hygiene.

### CONTRAST NECESSARY

There are often pictures in the *National Geographic Magazine* which can be used for sight-saving class children. Care

must be taken that only clear, simple pictures are selected. One picture seemed almost hopeless at first, but it was made valuable for the sight-saving class children in a very simple manner. It was a picture of a white polar bear against the white snow. The contrast between the white of the animal and the white of the snow was not sufficient to be clearly seen by the children. The teacher simply outlined the bear with India ink so that the animal stood out very plainly. Another picture showed a snow-capped mountain against a sky. The contrast of the mountain top with the pale blue of the sky was not great enough for the children to see, and that, too, was outlined. Artistically this may be bad, but it is a great deal better to give the children some conception of these things than to deprive them of all pictures.

#### NO POSTCARD PICTURES USED

Postcards have no place in a sight-saving class. They are far too small, and are usually so poorly printed that they are often a source of eyestrain. Besides this, there are too many details, and while they play a very important part in a good deal of the class work with children of normal vision, the sight-saving class teacher should endeavor to provide pictures which are much larger and much more simple.

#### WHERE TO FIND SUITABLE PICTURES

Keeping in mind that illustrations must be clear and simple, an ingenious teacher may find many suitable pictures for her class. They are found in the most unexpected places, and it is by being constantly on the alert, watching for sight-saving class material, that the best illustrations have been found. It is understood that all material of this sort is prepared by the sight-saving class teacher. Sight-saving class children should not use their eyes for the preparation of any pictures of this type. These illustrations are used just as similar material is used with normally sighted children.

#### SPECIAL ACTIVITIES

In addition to the work which is prescribed for any particular grade the sight-saving class teacher is required to carry on a

number of special activities. These, in some respects, do not bear any close relation to each other, but are more or less connected either with the work in academic subjects or in the health program for the children. For this reason they have been grouped together under the subject "special activities." There may be some question as to whether this designation is a proper one, but it is one which will probably be understood by the average teacher undertaking sight-saving class work.

#### A. MOTIVATED HAND WORK

Since the children in these classes are placed there because of their seriously defective vision, their eyes should be spared in every way possible. In other words, the use of the eyes should be limited to the essentials in education. By that is meant that if there is a choice between using eyes for reading and using eyes for some type of hand work the use of eyes in connection with the reading would be given preference. Children must use their eyes in order to read. They do not need to use their eyes in order to do a good many types of hand work which form a part of the sight-saving class activity, and hand work should be limited to those activities which require a minimum use of the eyes for close work.

#### LIMITATIONS IMPOSED BY POOR SIGHT

For some time after sight-saving classes were established, it was thought that the type of hand work produced by blind children could be used satisfactorily. It is a well-known fact that no matter how little vision an individual may have, he will use that vision to the limit. At one time an attempt was made to teach sight-saving class girls to sew, in the same way as that in which blind girls are taught to sew, namely, merely by sense of touch. Theoretically this is possible, but in actual practice the sight-saving class girls at every opportunity used their eyes for their work. For that reason sewing for girls in sight-saving classes has been abandoned. The same thing is true with a good deal of the weaving. The strings which form the warp on the looms are a source of eyestrain, and the sight-saving class children, instead of using their fingers to feel the

under and over of the weaving thread, will bend their eyes close to the loom in their endeavor to see where to place the shuttle. Basketry, while it does not demand such close use of the eyes as sewing, still had no real reason for being introduced extensively into the hand work curriculum. It is interesting to make a basket, but nothing of great value is gained by a child in a sight-saving class in pursuing a course of several years in basket making. Very few children ever use their knowledge of basketry after they have left the elementary schools. Basketry for sight-saving class children has been defended on the basis of a hand training which it gives. There is something to be said for this and for the pleasure which the children derive from making a basket, but basketry should not be used merely as a means of keeping the children busy and to the exclusion of many other forms of activity which are equally profitable.

#### MUST BE MOTIVATED

No hand work should ever be given to the children simply to keep them busy while other grades are reciting. In assigning any activity the sight-saving class teacher should always ask herself, "For what reason am I giving this hand work?" It should always be motivated in some way by the work which is taken along academic lines.

#### USE OF SAND TABLE

The children in one sight-saving class room worked for a considerable length of time in preparing a sand table which represented the ideas they were getting from their geography lessons on Egypt. The boys brought in clay which they found on a hillside and spent some time in modeling the Pyramids and Sphinx. With the use of blue paper representing the river they built up the sand to show the course of the Nile. Other children modeled from plasticene the camels and some of the girls dressed clothes-pin dolls to represent the Arabs. Palm trees were made by winding brown crepe paper around sticks and at the top placing several long leaves cut from green crepe paper. These were placed in a most realistic manner along the



banks of the Nile. The project occupied several days, and in the end the children had a very good picture of the Nile valley. One of the older children made a contribution to this sand table by way of an obelisk on which he had placed hieroglyphics of his own manufacture. A sand table should be in use constantly. There should be a project in process of development at all times. The sand table should be an educational tool, not a plaything.

## POSTERS

At the time the children were studying Columbus a number of very interesting posters were made in which even the smallest child had some part. On a sheet of construction paper they pasted a dark blue for water with a lighter blue above for sky, and on this ocean were placed the three little boats with the white sails outlined clearly against the sky-line. The posters were very effective, and the children had expressed their ideas. Wherever posters are made, cutting should be done free hand. It is surprising how adept the children become at this form of activity. Under no circumstances should sight-saving class children be required to use their eyes for close work with paints or crayons. Wherever they need a color it can be cut from a piece of colored paper, thus reducing the use of eyes considerably. Some of the children ask for titles and lettering on their posters, and to satisfy this demand they have been taught to do free-hand cutting of the alphabet. This is a very simple matter, easily taught, and a great delight to the children.

## MANUAL TRAINING

Some forms of manual training have been found to be excellent for both boys and girls of sight-saving classes. It must be understood in placing the sight-saving class children with the regular grades for manual training that they are not to be required to use their eyes for making drawings. In doing coping saw work, they should be allowed to follow a very heavy black pencil line.

Girls seem to take as much interest in manual training as do the boys. This may be accounted for somewhat by the fact that the sight-saving class girls do not take sewing.

## COOKING CLASSES

Girls should take work in the cooking classes. In this each sight-saving class girl should have her own note-book, made from the wide-lined paper and with India ink copy into it such recipes as are necessary. The question of copying recipes from the blackboard is probably the only difficulty connected with the cooking work and that is easily solved in ways which have been indicated in other copying problems.

## B. PHYSICAL TRAINING

For the most part sight-saving class children participate with the regular grades in physical training. However, this participation should be only upon the approval of the oculist who has charge of the child's eyes. For instance, most oculists do not wish children who are high myopes to take any bending exercises. These may cause an undue strain on the eyes and oculists have said that in extreme cases of myopia any sudden blow or strain may cause a detachment of the retina which may result in blindness. In addition to the work in the regular class it has been found that a certain amount of corrective gymnastic work is desirable. Where children have only one eye, their head is usually turned so that that eye comes to the center of the line of the body. This causes a twisting of the spine, usually making one shoulder and one hip higher than the other and brings about a strain throughout the whole body. Children who are near-sighted and who have the habit of bending over their work develop round shoulders and cramped chests. Often other forms of eye defect produce a corresponding defect physically, and it is through the help of a gymnasium teacher trained in corrective work that this faulty posture may be overcome.

## C. EYE HYGIENE

It is not enough for the sight-saving class teacher to protect the eyes of her children in every way possible; she should so instruct them that, as they go through school, they may learn more and more how to take care of their own eyes. One of the best courses in eye hygiene which have been prepared for this purpose was written by Miss Olive Peck, Assistant Supervisor

of Sight-Saving Classes, Cleveland. This paper discusses in a very simple, interesting way the whole question of eyes. A child should not be allowed to become morbid on the subject. The question of eye hygiene with children of defective vision must be handled in such a way that the child may acquire the best eye habits and care. Children should not be encouraged to discuss their eye defects with other children, but they should be taught to recognize their limitations in the use of eyes, to recognize the necessity for straight, clean glasses, and to be so conscious of light that they will always place themselves in the best possible position when doing any reading or written work. This has a distinct bearing on the question of vocational guidance, which will be taken up later. Of course, it is obvious that no teacher can direct her children in this subject of eye hygiene without knowing something of eyes herself. It is essential, therefore, that the teacher take every opportunity to study eyes and to recognize from oculists' reports just what difficulty each child in her class is facing.

#### D. THE LUNCH HOUR

##### LUNCHESES DESIRABLE

The children in sight-saving classes usually come from long distances, and it is seldom that any group is able to go home at lunch time. When one considers that eyes often reflect in their diseased condition, the condition of the body, it becomes apparent that the question of nutrition is an important one for sight-saving class children. Nothing can be more dismal than for children to eat a cold lunch in some of the dark basements where they are sometimes sent at noon hour. Where a lunch is obtainable in the building the sight-saving class children can get their lunch in just the same way as do other children who attend that school, but frequently there are no such facilities. It then becomes necessary to install in the cloak room an electric hot plate, with enough dishes, pots, and pans, to cook and serve at least one warm dish for the children's lunch. Usually the teacher, or the older pupils, boys and girls alike, take care of the cooking. The ideal way to handle the situation would be to cook one warm, nourishing

food, allowing the children to supplement this with sandwiches or fruit brought from home.

### HOW TO PREPARE AND SERVE LUNCH

At noon hour the table in the room is set by some of the children. In this the small children may participate, and learn to set the table very nicely, while the older pupils are preparing the food. At the proper time the children place their lunches on the plates. No paper bags and bundles should be brought to the table. The teacher then serves the warm food and all eat together. After lunch is finished the children again take charge, clearing the table, washing the dishes, and making everything ready for the afternoon sessions. This is not as complicated as it would seem, and where it is made a particular privilege to participate in the preparation of lunches, or in clearing the dishes afterward, the children are very anxious to have an opportunity to do these things. It will be found that the children are usually very grateful for the chance to have something warm at noon hour.

### WHAT TO PREPARE

The easiest things to cook, of course, are the canned soups, which are very nourishing, but soup should not be given every day of the week. The children like boiled rice, macaroni with cheese or tomatoes, tapioca pudding, boiled potatoes with plenty of butter, and cocoa. In one school the children enjoyed having milk toast at noon. Naturally, emphasis should be placed on milk and green vegetables in the diet of every child. In choosing food for the noon hour two things must be kept in mind: that it should be nourishing and easy to prepare. The child who will not eat this, that, and the other kind of food is the topic of much discussion among sight-saving teachers who are dealing with the lunch problem. Public opinion in the shape of their own parents has probably made them critical of food. Children are good imitators in this respect and often reflect the ideas which are held at home. Public opinion can be just as strong at school. If the teacher and the rest of the children are eating a certain dish, it becomes

“quite the thing” to do, and the reluctant one usually falls in line. It is a good idea to have the children suggest a menu for the week and after they have agreed on certain dishes, the teacher may tactfully introduce new ones.

#### OTHER LUNCH HOUR ACTIVITIES

The noon hour may easily be made the most delightful period of the whole day. Gathered around the table the children lose the formal attitude which they are so apt to assume with the teacher, and the whole group are just good friends. At that time they tell of their experiences at home and with each other, and it is most valuable for the teacher if she can develop such a sense of freedom among the children that through it she is able to find out many things from her group which she in no other way could get. It is also an opportune time for observing the table manners of the children. Any corrections which are necessary along this line should be done privately after the lunch hour is over. The children really are learning a great deal that is valuable as well as getting the nourishment which they need.

#### PLAN OF CONDUCTING HIGH SCHOOL CLASSES

Sight-saving classes were first established in the elementary grades, and it is only within the last few years that there have been a considerable number of children from these classes entering high schools. As the child goes along in the grades he should be released more and more from the close supervision which the teacher has given to his eyes and should be taught to assume complete responsibility for himself. This should be done gradually so that at graduation from high school the sight-saving class child should be perfectly sure of his own eye condition and should be in position to take care of himself. For this reason in some schools there has not been established a regular sight-saving class room in a high school, but the sight-saving class children are seated in the home rooms with the children of normal vision and are under the direct charge of a conservation-of-vision teacher who has had high-school experience.

## STUDENT READERS

Each sight-saving class child in this group is provided with a student reader. This reader is a member of the same class as the child with defective vision and is taking exactly the same course of study. These student readers are paid in one city twenty cents an hour for their services. They read aloud all of the assigned lesson material from the small type text-books. Where necessary, they do any copying which is required by the sight-saving class child. In other words, they act as eyes for the child with defective vision. These student readers are chosen on the basis of their standing in academic work. Preference is always given to children who may be helped through high school by the money which they may earn in this way.

## PREPARATION WORK

Assigned work is done at the school under the supervision of the sight-saving class teacher. This group meets immediately after the close of school, and under the proper lighting conditions prepares all work for the next day. When he leaves the building, not only is the sight-saving class child prepared for the next day, but the reader having the same assignments as the sight-saving child has his own work prepared as well, and it is not necessary to do any home work under conditions which cannot be controlled.

In the smaller towns, where there are only one or two sight-saving class children in high schools, the same reader system may be used, but the work is supervised by the sight-saving class teacher in charge of the elementary class.

## VOCATIONAL GUIDANCE

From the beginning the sight-saving class child must be instructed regarding his own eye condition, and should be taught, in the light of that, to think of the things which he may be able to do after he is out of school. It is not possible, with small groups of sight-saving class children, to give actual vocational training. What is done must be more in the nature of guidance along lines which are suited to the children. Where there are vocational schools connected with the public school system,

there can be coöperation between the department for sight-saving and the vocational education department, so that such vocational training as can be taken without aggravating eye conditions may be opened to sight-saving class children. It is obvious that no sight-saving class child should be sent to a printing trades school, but depending upon eye condition, could be sent to the automotive trades school or to an agricultural school. In the latter, microscopic work is not possible for sight-saving class children, but other activities might be substituted. A course in salesmanship might be profitable.

#### LIMITATIONS AS TO CHOICE OF VOCATION

No hard and fast rules for vocational guidance can be laid down, but, taking into consideration the eye condition of the child and his natural vocational tendency, some plan may be worked out whereby the child may follow his ideas in some field or other. Myopes, for instance, should be encouraged to take up out-of-door activities and guided away from close office work. This is often a very difficult thing because the near-sighted child is able to do close work most easily. It is a fact, however, that any close work done by a myope is likely to be at the expense of his eyes and to increase his difficulties.

#### COÖPERATION WITH VOCATIONAL GUIDANCE DEPARTMENT

It must be emphasized that the whole problem of vocational guidance is an individual matter. A good deal of help may be had from those in charge of the regular vocational guidance work in the schools, and from books on vocational guidance. The point must always be kept in mind, however, that the eye conditions limit occupational possibilities. It is encouraging that, after working with these children, teaching them about their eye conditions and discussing with them the various types of work which they are able to do, how they often solve their own vocational problems and at graduation come to the sight-saving teacher saying, "I've got a job." Most frequently the work which they find for themselves is that which satisfies them and which takes into consideration their eye condition. This, of course, is not always true. There will al-

ways be children who are misfits, and in spite of any training tend to pursue the wrong course.

Sight-saving class children are very much like any other group of children. They are swayed in their choice by parents, teachers, and other children. The sight-saving class teacher's job comes in reconciling the work chosen with the eye condition of the boy or girl. Long lists of occupations suitable for sight-saving class children are only suggestive.

Doubtless the best plan is to let the child suggest the type of work he prefers and then let the sight-saving class teacher adapt that idea to his eye condition. Vocational guidance is a big responsibility. Sight-saving class children should be urged, at every opportunity, to consider the type of work they wish to undertake, and constantly the "eye" element should be brought to their attention. It is not necessary to have formal lessons on the subject, but as the child progresses, particularly in the junior and senior high schools, he hears the subject discussed and it is at this point the sight-saving class teacher can be most helpful in presenting modifications of any plan which does not take into consideration eye handicaps.

Since many children in sight-saving classes, as is the case in regular grades, will leave school before reaching the higher grades, the teacher must become thoroughly conversant with the probable school life expectancy of each child. She can then be prepared to give vocational advice when it is most needed.

## RECORDS AND REPORTS

The sight-saving class teacher comes closer to her children possibly than any regular teacher in public school work. She has these children through a number of grades. She becomes conversant with their mental and physical conditions. She knows a good deal more about family and home conditions than the regular public school teacher probably would have time and opportunity to learn. The knowledge which she has is very valuable in taking care of eyes and planning school work, and in the matter of vocational guidance. It is essential that teachers of these children should keep complete records of all the information having a bearing upon eye conditions and



education. This is especially necessary in order that with a change of teachers the new teacher may have all this information available. Children should be visited in their homes at least twice a year and some of the more difficult cases should be visited many times. Home calls should always be friendly. When there are any complaints to be made, it is usually wise to have the parents come to the school. A record should be kept of each visit, so that as other teachers take up the work as the years go by, any reference to conditions in the past may be verified. Every sight-saving class teacher should have a folder or envelope for every member of her class. In this she should keep the following reports:

- (1) Report of eye condition.
- (2) Mental test.
- (3) Record of home visits.
- (4) Reports of school progress.

#### ANNUAL EXAMINATION BY OCULIST

An eye record should be made each year by an oculist. This should be done regularly, so that any changes in eye condition may be noted. Where eyes improve above the standards for admission to the class, the child may be sent back to the regular grade. Where any deterioration is noted, the sight-saving class teacher must find out immediately where the trouble lies and help to remedy it.

#### MENTAL TESTS

Mental tests are sent out from the Psychological Laboratory by the psychologist who makes the tests. Often there is only one test made at the time the child enters the sight-saving class, but if it should so happen that the report places the child on the border line it will be well to have subsequent mental tests made.

#### REGULAR SCHOOL RECORDS

The usual school records should, of course, be kept. Sometimes these records are required to be filed in the school principal's office. In that case the sight-saving class teacher

should keep a duplicate copy, so that in any case it will not be necessary to go through files or bundles to hunt out the past record of any one of her group. As a child progresses in school his folder will contain a fairly full account of his progress and history, and it will be extremely helpful when a new teacher takes up the work or when a child is transferred from one class to another.

## IDEAS IN THIS PUBLICATION ARE TENTATIVE

In closing, the statement which was made in the beginning should be repeated. These ideas are intended merely as suggestions. They are only tentative. Many new ideas are being formulated, but it is hoped that from this beginning enough suggestions and comments will come to make a very complete statement of the methods of teaching sight-saving classes.

## BIBLIOGRAPHY OF BOOKS REFERRED TO IN THE TEXT

Code of Lighting School Buildings, Illuminating Engineering Society, 29 West 39th Street, New York, N. Y.

Conserving the Sight of School Children, Report of the Joint Committee on Health Problems of N. E. A. and A. M. A. with Nat. Com. Prev. of Blindness. National Education Association, 1201 16th Street, Washington, D. C.

Hathaway, Winifred, Manual for Conservation of Vision Classes, National Committee for the Prevention of Blindness, 370 Seventh Avenue, New York, N. Y.

Kerr, James, M.D., School Vision and the Myopic Scholar. George and Unwin, Ltd., London.

May, Charles H., M.D., A Manual of the Diseases of the Eye. Wm. Wood & Co., New York.

Posey, William Campbell, M.D., Hygiene of the Eye. Lippincott, Philadelphia.

# SIGHT SAVING CLASSES IN SCHOOL SYSTEMS\*

## WHAT ARE SIGHT SAVING CLASSES?

Classes established in public and private school systems for the education of children who, because of seriously defective vision, cannot be profitably educated in the regular grade.

## WHY SHOULD NOT SUCH CHILDREN BE EDUCATED IN SCHOOLS AND CLASSES FOR THE BLIND?

The two systems of education are different: for blind children, the chief avenue of educational approach is tactile; for sighted children, it is visual.

## HOW ARE SIGHT SAVING CLASSES VALUABLE?

They are valuable to:

1. *Handicapped children:* by giving educational advantages to children with seriously defective vision while saving their sight.
2. *Normally sighted children:* by relieving the grade teacher of the necessity for devoting a disproportionate amount of time to handicapped children.
3. *The educational system:* by relieving the system of those repeaters who have failed to make their grade because of defective vision.
4. *The state:* by investing in children who will become an asset rather than a liability to the community.

## WHAT CHILDREN ARE CANDIDATES FOR SIGHT SAVING CLASSES?

In general children whose vision ranges between 20/200 and 20/70, together with children suffering from progressive eye troubles.

\*Prepared by the National Committee for the Prevention of Blindness, Inc., 370 Seventh Avenue, N. Y.

## WHERE MAY DETAILED STANDARDS BE OBTAINED?

The National Committee for the Prevention of Blindness, 370 Seventh Avenue, New York, will furnish standards used in various cities on request.

## HOW MUCH EYE WORK ARE SIGHT SAVING CLASS CHILDREN PERMITTED TO DO?

The amount is determined by the oculist in relation to the eye difficulty from which the child is suffering. Oral instruction is emphasized,

## WHAT PROPORTION OF CHILDREN REQUIRE THIS SPECIALIZED FORM OF EDUCATION?

About one child in every five hundred of the school population. In districts where insanitary conditions exist, the proportion is usually higher.

## HOW MANY CHILDREN MAY BE PROFITABLY EDUCATED IN A SIGHT SAVING CLASS?

The number of children depends chiefly upon the number of grades represented. Where there are not more than three grades in a class, sixteen children may be cared for. An increase in the number of grades requires a corresponding decrease in the number of pupils.

## WHAT ARE THE ESSENTIAL PHYSICAL ARRANGEMENTS OF A SIGHT SAVING CLASSROOM?

Adequate lighting, natural and artificial, without glare; dull, matt surface on walls, woodwork, desk tops, blackboards, paper, etc.

## WHAT SPECIAL EQUIPMENT IS NECESSARY?

Movable, adjustable seats, adjustable desks, tables and chairs, typewriter and stands, clear-type books, unglazed paper, educational models, charts, special mats, special globes, adequate cupboards for large size books, paper, etc., equipment for motivated handwork.

## WHAT IS THE GENERALLY ACCEPTED METHOD OF CONDUCTING SIGHT SAVING CLASSES?

The work is co-ordinated with that of the regular grade. Work requiring close use of the eyes is done in the special class under the guidance of the special teacher, the use of the eyes being prescribed by an oculist in consultation with the supervisor. Oral work, gymnasium exercises, rote singing, etc., may be taken in the regular grade.

## HOW ARE SIGHT SAVING CLASSES FINANCED?

Since the state makes education compulsory, it should be responsible for its share of the financial burden. Appropriations should be made for the education of physically handicapped children in accordance with the educational laws of the state. Appropriations may be withheld when standard requirements are not met.

Experience has shown that it is sometimes difficult to obtain financial assistance from the state until the need of sight saving classes has been established by the local community. In some instances state subsidies providing for other types of classes may, without special legislation, be extended to communities maintaining sight saving classes.

## HOW MAY FURTHER DETAILS AND ASSISTANCE REGARDING SIGHT SAVING CLASSES BE OBTAINED?

The National Committee for the Prevention of Blindness, believing that sight saving classes are among the most important ways of conserving sight and preventing blindness, offers its service, and where necessary, will send a member of its staff experienced in this work to any community for legislative or educational work looking to the establishment of such classes.

# SIGHT SAVING CLASSES IN THE PUBLIC SCHOOLS

Presenting the Ohio Plan

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Bound at the State Bindery





## FOREWORD

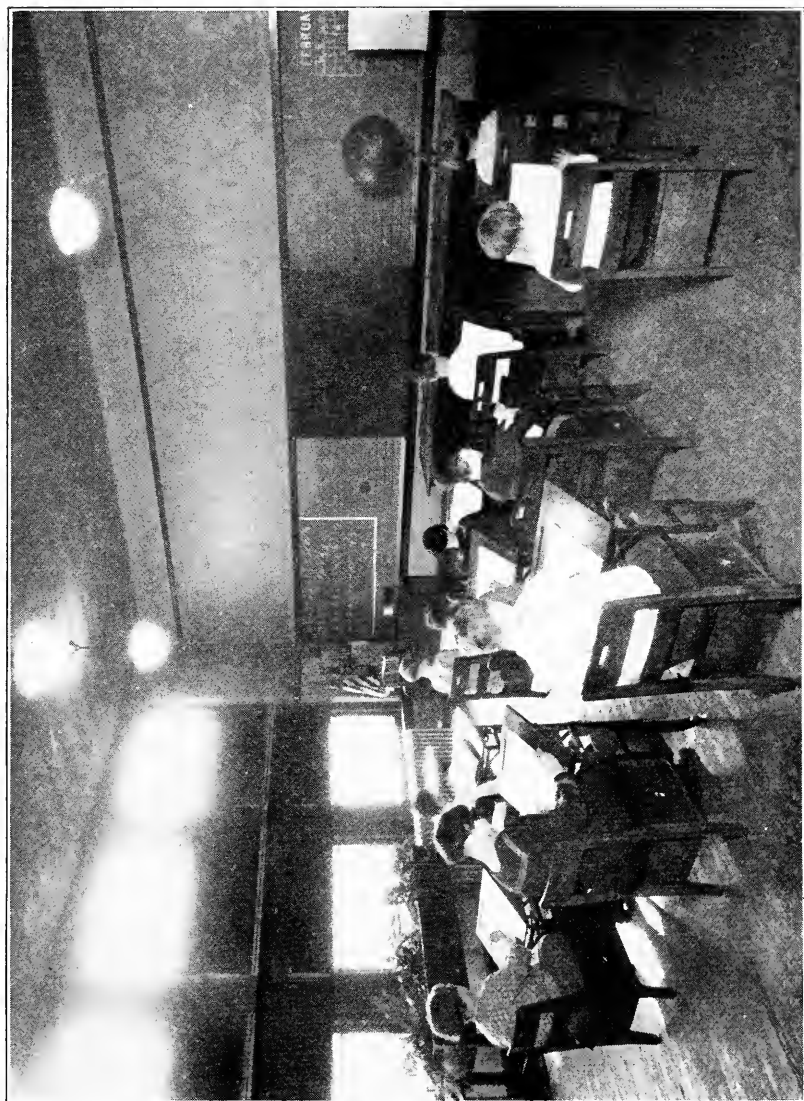
A bulletin of this type is not, and cannot be, prepared by a single individual. Because of this, the director of special classes wishes to acknowledge the help received from the teachers of sight saving classes throughout the state and from city and state supervisors.

The "Special Studies" are the work of Olive S. Peck, with the exception of the statement of "Binet Testing" which was prepared by Edith M. Taylor.

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A typical sight saving class



## I.

### GENERAL DESCRIPTION OF A SIGHT SAVING CLASS

A sight saving class is a special class maintained to educate pupils whose sight does not permit them to do the work of the regular grades, or who attempt it only at the expense of their already limited sight.

A room is set apart in a regular school building. A northeast exposure is desirable, as the light from that source is the least variable. Walls and ceilings are painted light buff. All walls and woodwork are done in dull finish to eliminate glare. Special artificial lighting to be used on dark days is installed. Pupils' desks are adjustable and movable. Very large type books specially printed are used. The class is usually composed of from twelve to sixteen pupils in four or five grades. Teaching is oral as far as possible. The child prepares his lessons under the care of the special teacher. He recites all oral work in the ordinary recitation room, but the written work is done in the special class with sight saving tools. This plan of cooperation between regular grades and the sight saving class has the advantage of permitting the child with impaired sight to compete socially and educationally with pupils of normal sight. This is a most valuable preparation for his vocational life.

Cleveland, as early as 1911, permitted children in classes for the blind, who had considerable vision, to use ink print books and the blackboard. In the fall of 1913 the Board of Education opened the first sight saving class under the supervision of Mr. R. B. Irwin.

Since that time the work has spread over the state until the school year 1925-26 found 48 classes in operation. This is one evidence of the value of a class to the visually handicapped child and to the school system.

#### *Financial Support.*

Sight saving classes are supported jointly by the city and the state. The law provides that the state may pay the excess cost of educating pupils in a sight saving class, over the cost of educating an equal number in the regular grade, up to a certain maximum limit.

#### **Items of Cost**

There are several reasons why these classes are expensive to maintain. Following are some of the factors entering into this cost.

#### *Enrollment*

One is the small enrollment necessary to give individual treatment of pupils. If the number of pupils becomes too large, the size of the class defeats the purpose for which it is organized.

#### *Textbooks*

A second reason for the excess cost of sight saving classes is to be found in the high cost of textbooks. Due to the fact that all textbooks must be printed in clear, bold type, there is no opportunity to secure the advantage of quantity production. This is easily understood when it is realized that the total sight saving enrollment is only a small fraction of the entire school enrollment. A textbook in geography, for instance, which can be sold to schools in the regular edition at a price of \$1.72 costs \$25 in the clear type edition which the sight saving classes must have.

### *Special Equipment*

A considerable amount of special equipment is necessary for the proper conduct of a class. The room must be equipped with scientifically correct electric lighting. The desks must be movable and adjustable.

### *Transportation*

There are two types of transportation to be considered in connection with a sight saving class: that within and that outside the school district. The board of education of the district in which the child lives may pay his transportation to a class in another district; and the board of education maintaining the special class may provide transportation to the class. Under a later provision of the law this service becomes mandatory, upon order of the Director of Education.

Transportation within the district is the more expensive, and is oftentimes troublesome. It is necessary to provide guides for many of the younger children because of distance to be traveled. If the child attending the special class has a brother or sister in school, arrangement is usually made to have the older child transferred to the district operating the special class. If there is no member of the child's family available for a guide, other arrangements must be made by the parents in cooperation with the teacher. (This duty of providing guides usually seems to fall upon the teacher.) Carfare for both the pupil and the guide is usually paid by the board of education. In some instances it is necessary to pay the guide a small fee in addition to the carfare.

### *Hot Lunches*

Another item of expense chargeable against a class is the cost of hot lunches. Because children in sight

saving classes usually come from considerable distances, it is impossible for them to go home at the noon hour. If there is a cafeteria in the school building, the pupils obtain their lunch in the same manner as the pupils in the other grades. If not, the children bring sandwiches and fruit which are supplemented by one hot dish furnished by the school, and this lunch is eaten in the classroom. It is usually prepared by the teacher with help from the older girls and boys.

Proper nutrition plays an important part in caring for these children, as diseased eyes often show improvement when the general physical condition is improved.

### **Types of Cases Eligible to a Sight Saving Class**

#### *Extent of Physical Impairment*

Under the Ohio Law the definition of blindness reads as follows: "Any person of sound mind, who, by reason of defective . . . vision . . . cannot properly be educated in the public schools as other children, shall be considered blind . . . within the meaning of sections 7755-57, General Code. But persons with . . . partial vision may also be instructed under the provisions of these sections."† This bulletin endeavors to give certain information concerning children who classify under the last provision — namely, "persons with partial vision."

Children in sight saving classes are *sighted*, not blind. The blind child, in a sense, learns to see through his fingers. The child in the sight saving class gains his information through his eyes, almost as much as the child does who has normal vision. It is the duty of the

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†See Appendix for complete law.



special teacher to provide helpful means for doing this, in order to conserve the already defective vision.

In general, the vision ranges from 50% to 10% of normal vision, after proper correction has been made. In addition, children suffering from progressive eye troubles are considered eligible for these classes.

See Appendix for more detailed information on "types of cases".

### *Mental Capacity\**

In conformance with the law as quoted above, children are admitted to a sight saving class on the basis of a mental test approved by the State Department of Education.

If a child is found to have a double defect, mental deficiency with low vision, he is referred to the special class for the mentally retarded. This is in line with the general policy of permitting the major handicap to determine the placement of the child. However, the teacher of the sight saving class is always willing to assist the teacher of the mentally retarded group in providing suitable work material for the child's limited vision.

### **Method of Locating Pupils**

Pupils who are eligible for sight saving classes are located in various ways:

- a. Children with obvious eye defects are reported by the regular grade teacher to the nurse. The nurse makes the preliminary examination. If in her opinion the child is eligible, arrangements are made for examination by an oculist.

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\*See section on Special Studies for further information.

- b. The school nurses in their routine examinations locate children with eye defects serious enough to make attendance in sight saving classes imperative. These pupils are referred for examination to an oculist.
- c. In cities having school clinics and city eye clinics cases are referred through these media.
- d. In some school systems repeated failure to be promoted constitutes a reason for a thorough physical examination. If the failure is due to an eye defect which makes him eligible, the child is placed in a sight saving class.
- e. Serious defects which would be difficult to locate without a very thorough examination are referred to the classes by oculists. Many of the cases referred in this manner are private patients of the oculists.

### *Examination required*

Before pupils are accepted for a sight saving class, a report of an eye examination properly made out must be presented to the sight saving supervisor. If the class is full, the name is placed on a waiting list and as soon as the opportunity can be made the child is entered. Every effort is made to take the pupil into the class as speedily as possible.

### *Cases referred*

The number of cases in Ohio sight saving classes referred by different sources is shown in the following table:

(a)	Hospital or city clinics.....	123
(b)	School clinics.....	194
(c)	School oculist.....	64
(d)	Private oculist .....	265
(e)	Optometrist .....	3

*Type of eye conditions eligible*

A list of the eye defects referred to Ohio sight saving classes will be found under "Special Studies", page 38.

*Method of receiving re-examination*

It is of utmost importance to have pupils' eyes re-examined at intervals. The frequency depends on the eye condition. Children with progressive myopia should be re-examined at least every six months, and preferably every three months. Pupils having stationary eye conditions due to congenital eye troubles do not need to be re-examined so often.

These examinations are made by school or city clinics, school oculists, or by the child's private oculist. Reports of re-examination are made to the teacher and any recommendations for treatment or training are made at this time. All reports of this nature are confidential.

*Importance of "check up"*

In case the eye report shows any change or deterioration in the eye, steps are taken immediately to make changes which may be beneficial. It may mean a talk with the parents as to a change of diet, or additional reduction in eye work in school, until the next examination shows the trouble is checked or improved.

## II.

### AIMS AND PROCEDURE IN A SIGHT SAVING CLASS\*

In order to understand the reason for the gradual growth and development of the present philosophy of sight saving methods and administration, it is necessary to know how sight saving classes came into existence.

#### *History*

Sight saving classes in America came as the solution of the question of educating the semi-sighted child in the institution for the blind.

The child who had too much sight to read raised dots with his fingers and too little to read ordinary print with comfort and safety was a problem. He did not belong in a blind school, as his need was of a very different type. His approach to knowledge was through his eyes, even though the image might be blurred. The blind child got his concepts through tactual impressions. Obviously, there was little relation between the two methods of instruction. The semi-sighted child's needs were much more closely allied to the educational methods of the regular classroom. It was a question of adapting regular school work to the eye condition.

Educators in work for the blind recognized the fact that the correlation should be between regular schools

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\*A more complete study of equipment and methods for the conduct of sight saving classes will be found in

Methods of Teaching Sight Saving Classes—Estella Lawes, published by National Committee for the Prevention of Blindness.

Sight Saving Classes—Helen J. Coffin and Olive S. Peck, published by Board of Education, Cleveland.

and sight saving classes rather than between classes for blind and the semi-sighted. They put forth their best efforts in organizing this new type of education.

In April, 1913, the first sight saving class in the United States was opened in Massachusetts. The following September, the Cleveland Board of Education opened the first sight saving class in Ohio. The organization of this class was made possible by the enactment of laws providing for the establishment and financial support of these classes as a definite responsibility on the part of the state of Ohio.

The work of these early classes demonstrated the value of sight saving, educationally, socially, medically, and financially. The work spread throughout the state until at present there are more cities in Ohio conducting sight saving classes than in any other state.

Many states are establishing classes using the Ohio plan and modeling laws governing the establishment and financing of these classes after those of Ohio.

One of the interesting developments of this work, as it progresses, is the tendency to include not only semi-sighted pupils, but also those who, although they can see, need special care because of eye conditions which are apt to become worse, often with disastrous results. When this is done these classes may be called sight saving in the strictest sense of the word. These children, usually of high mentality, are pupils of the studious type and must be surrounded by every precaution against incorrect use of their eyes during the period of their lives when the condition tends to become worse.

These safeguards are usually successful in checking serious progression of the eye trouble. This may result in adding several years of useful vision to their working years.

### *Selection of pupils*

Upon examination by an oculist, pupils whose eye condition is such that it is impossible or inadvisable for them to be educated using the same educational equipment and methods as pupils of normal sight are assigned to a sight saving class, as was described fully in preceding pages. For details regarding eligibility see "A study of the diagnosis of eye conditions of pupils in Ohio sight saving classes," page 38.

### *Size of class*

The enrollment of a sight saving class will vary according to the number of grades represented. The minimum enrollment for organizing a class is eight. The maximum enrollment is sixteen children, if only four grades are represented. (See "Standard Requirements." Appendix.)

It has been necessary in some localities to overload classes in order to serve the needs of the communities. This has not been an ideal condition but sight has been saved. In most cases where the enrollment has exceeded the maximum, the help of a reader has been secured. This plan works well. There is frequently reading and copying that an untrained person can do, which saves the valuable time of the teacher for the more important work.

### *Selection of building*

The class should be located in a building housing all grades, if possible, centrally located, and easily accessible to transportation lines.

### *Selection of room*

A room of average size with the best possible natural lighting is selected. It is desirable to have unilat-

eral lighting; in no case should a room be chosen which will require the pupils to face windows. This room should have an exposure giving the least variable light, with no glaring roofs or adjacent walls. It is essential that the room have an adequate supply of blackboard space. It is advisable to have the blackboard placed at a distance of about 24 inches from the floor, since the writing can thus be kept on the child's level or below.

The room should be equipped with scientifically planned electric lighting fixtures for use on dark days. Care must be taken of these lights after installation. The bowls should be washed at least every six weeks and bulbs renewed frequently.

Adjustable window shades are installed to control the natural light. Two shades are used at each window. They should be of a neutral tan or gray translucent material, which will transmit light and at the same time diffuse it.

Walls should be decorated in a French gray or buff, with ceilings done in white to which has been added a small amount of light tan. All surfaces must be in mat finish. Buff and cream colors are preferred by many, as a room finished in these colors appears more cheerful.

### *Equipment of room*

In addition to the usual equipment of a classroom, there must be an adequate amount of cupboard space. The room is equipped with the necessary number of movable, adjustable desks. A table for lunch and manual work, chairs to be used at this table, and a sand table for classes having primary grades are needed.

A typewriter is installed in classrooms which have pupils of the proper age to use it. A typewriter table is also required.

## *Supplies*

Paper for use in sight saving class has a dull surface and is cream in color. Some schools use paper with heavy green lines ruled about  $\frac{3}{4}$  inches apart. Paper without lines should be used as much as possible. The lines should serve only as a guide to size, placing, etc.

Heavy lead pencils with soft lead are used. Heavy, soft chalk is used for writing on the backboards.

The books supplied for use by these children are printed in 24-point type (as compared to 10-point ordinary size) on dull cream paper. Special attention is paid to inking and to spacing of letters, words, and lines. This is one of the most expensive items of equipment, but experience has proved it to be a wise expenditure, as the increase in sight saving libraries has made it possible to increase the enrollment of classes. This in turn has helped to lower the per capita cost of maintaining the classes. These books are called clear type books. They are much more expensive than ordinary textbooks. The material to be reprinted in clear type form is selected by an editorial committee of teachers and supervisors of sight saving classes from various parts of the United States. Publishers have been generous in giving permission to reprint copies of the best textbooks used in the regular classrooms. An effort has been made to put into these books only the best and most up-to-date material. A limited amount is printed in clear type each year. As a result of a printing program which has covered a period of nearly ten years, a fairly adequate supply of printed material is available for the pupils in sight saving classes.

A plan of cooperation with other states having sight saving classes has materially reduced the price of





Special sight saving equipment, copy holder, large type typewriter, book rack, globes



these books in the last five years. As more classes are opened throughout the United States, more books will be needed, and production in a larger quantity will cut the cost of these books proportionately.

In cases where the class is located in a building having no facilities for serving and preparing lunch, it is necessary to install an electric hot plate with proper supply of dishes and cooking utensils. Usually one hot dish is prepared for the children at noon.

There are many things in the way of miscellaneous equipment which will prove to be labor saving devices for the teacher and pupils. These will be needed, but space is too limited to list them in the publication.

### *The Cooperative Plan*

The pupils in a sight saving class are not a segregated group. Each child recites all oral work in the regular grade to which he is assigned. He does the written work, reading, and special subjects in the sight saving class room. This plan has been very successful, as the competition keeps the child spurred up to an achievement level on a par with his mental ability.

Every child in a sight saving class is given a mental test. No pupil below normal is accepted. Since these pupils are of approved mental ability, they are expected to keep abreast of the work of the regular grades. Many times they do work so well that they prove to be an inspiration to the pupils of the regular classes.

These pupils must be well trained in concentration and memorization. Instead of reading so much, they must think more about what they hear. They must be taught to let their ears work for their eyes.

### *The aim of sight saving classes*

Sight saving classes have three objectives: first, to save sight, at the same time keeping the child up to standard in school work; second, to teach enough eye hygiene to enable the pupil to care for his eyes properly; third, to give him vocational guidance enough to aid in the selection of a vocation best suited to the eye condition.

### *The program*

The program of a sight saving class is a composite one made up from the programs of each grade represented in the class. The teacher of the regular classroom sends her program to the sight saving teacher and around these the latter must construct a program for her pupil.

In general, sight saving pupils should be in regular classes for all work not involving the use of the eyes. All eye work should be done in the sight saving room with the proper tools, correct lighting conditions, and a teacher who is trained to watch for symptoms of eye and nerve strain.

In making up a program, there are certain points to keep in mind:

1. Periods of eye work must be brief — generally 20 minutes.
2. Follow periods of eye work with work permitting a change of focus for the eye.
3. Give each child his share of the teacher's time.
4. Cover the necessary subjects for the day.
5. Make allowance for the fact that sight saving pupils often do work more slowly than children with normal sight.

6. Permit no home work.
7. Include frequent rest periods for pupils who work under nervous tension.

### *The elementary grades*

In the elementary grades in general, the sight saving teacher will teach all of the reading, writing, written arithmetic and card drills on number combinations, handwork, typing, and eye hygiene. The sight saving teacher will read all assignments of the regular grades when the same material is not found in the clear type books. This may be supplemented by material on the same topic which the child may read for himself.

The sight saving pupil (with the exception sometimes of high myopes) goes to the regular classroom for oral work in spelling, language, history, nature study, geography, physical training, and games. Specially prepared maps are used by the sight saving pupil in the regular room when required. The child may go to the regular room for rote singing, but should not be allowed to read notes unless copied for him in large size.

Pupils in sight saving classes are given special handwork adapted to their eye conditions and correlated with their classwork. They are taught typewriting, using the touch system, not as a vocational possibility, but as a more efficient and speedy method of preparing written work to be read by the regular class teacher. In some school systems, typing is not taught to myopes.

### *The junior high school*

When sight saving pupils reach the junior high school grades, they are handled in various ways:

1. Where there is no separate junior high organization, pupils remain in sight saving class and recite in the seventh and eighth grades located in the same building as the class.
2. In cities where there are several classes, sight saving classes are organized and located in a junior high school building under the care of a special teacher, trained in sight saving methods.
3. In some localities where there are not enough pupils to have a separate junior high center and the class is located in a building not containing a seventh and eighth grade, a reader is hired to read the assignment to the sight saving pupils. This method is the least satisfactory.

### *The senior high school*

The sight saving pupil usually attends the high school in his own district just as the child with normal sight. In cities having trade schools or vocational training classes, the pupil is assigned to the school giving courses best suited to his aptitudes. A reader is provided to relieve him of as much eye work as possible during study periods, by reading lessons and copying work in a form which can be read easily. During this period of his education, the high school pupil is placed where he is independent and may demonstrate habits of conserving sight without constant reminders.

Where there is no visiting teacher or vocational director, the supervisor or sight saving teacher checks upon the achievement and eye condition of the pupil. Advice is given as to choice of subjects. The principal of the school is informed of the precautions to be used

in the care of the eye condition. Teachers are urged to seat the child properly and are informed of the eye condition. Every attempt is made to prevent calling attention unnecessarily to the pupil's difficulty at this most self-conscious age.

Some very excellent work has been done by these pupils in high school. Several have graduated with very commendable records and with no damage to the eyes.

Pupils who are over 16 years of age and show no desire or aptitude for further training are not urged to attend high school. Actual working experience in some vocation which will not cause further injury to the eye is recommended.

### *Social training*

Teachers of sight saving classes are required to make calls at the homes of their pupils. It is exceedingly difficult to understand a child unless the teacher knows something of the background and home life of the pupil. There are many adjustments which must be made; sometimes adjustments between parent and child, between regular teacher and child, and between medical men and the parents. There are frequently physical conditions which, if remedied, may contribute greatly to the more complete life of the child. In order that this may be done, the teacher must win the confidence of the parents.

Where there is no visiting teacher, the sight saving teacher also finds it necessary to keep in constant touch with the oculist in charge of the child in order to follow out any suggestions for treatment or training which may be made. Social contacts with pupils of the same

age in the regular grades are fostered. Children who are diffident and shy are encouraged to make friendships. Initiative is developed in order that they may live well rounded lives, not only in the future but as a means of present happiness.



### **III.**

#### **TEACHER TRAINING AND SUPERVISION**

Those interested in establishing sight saving classes have long realized that there is a lack of teachers who are trained for this work.

Prior to 1925 a majority of the teachers who were accepted for special classes were without training. They were forced to depend upon what help they could derive from an occasional visit from the city or state supervisor. While it is true that a teacher experienced in grade work may undertake to teach a sight saving class, she does it at the expense of a group already handicapped. The untrained teacher is likely to be so busy developing new educational methods that she forgets to conserve the eyesight of the children, which must always be the primary interest.

During the summer of 1925 the University of Cincinnati co-operated with the National Committee for the Prevention of Blindness and the Ohio State Department of Education in offering a course for teachers and supervisors of sight saving classes. The course was repeated in the summer of 1926 and an advanced course added. These courses offered lectures, conferences on the theory and method of teaching, observation in a demonstration class, and clinical work.

During the school year 1925-26 the Cleveland School of Education and Western Reserve University offered a course in Eye Hygiene. This course consisted of lectures by oculists of Cleveland, lighting experts of Nela Park, and members of the staff of the sight saving

department; visits to school and hospital eye clinics and to the lighting research laboratory at Nela Park. This course was attended by sight saving teachers of regular classes, nurses of Cleveland schools, and also nurses and sight saving teachers of nearby cities.

The courses in both cities were attended largely by teachers in service, as well as by teachers preparing for sight saving work. The results of such training are plainly manifest in the improved procedures that characterize their classroom efforts.

It is a source of great gratification to this division to know that, with few exceptions, all teachers of sight saving classes in Ohio have had special training in addition to their years of experience as teachers in regular grades. The teachers who are lacking in special training are planning to meet the requirements in the near future.

### **Plan for Supervision**

Ohio now has four sight saving supervisors. Cleveland and Cincinnati each has a full-time supervisor, while the other cities maintaining classes have part-time supervision. One supervisor gives part-time service to each of the several cities in northern Ohio which maintain classes, and the other supervisor has southern Ohio aside from Portsmouth, which is under the direction of the Cincinnati supervisor.

This arrangement gives to the class in the smallest community the benefit of the same methods used in the large city systems. The interchange of ideas is good. If one classroom teacher finds some new way to develop a lesson which is valuable to her children, either from an educational standpoint or because of lessening eye strain, that same idea will be carried on to the other teachers by the supervisor as she goes from city to city. The

northern Ohio supervisor is identified on a part-time basis with the Cleveland system, and the southern Ohio supervisor, with the Cincinnati system.

Supervisors are paid by the community in which they work for actual days of service. These salaries are a part of the excess cost of the classes and are charged against the state. Supervisors are responsible to the state director of special classes for the maintenance of certain requirements made standard by the State Department of Education. This is in compliance with Section 7761, G. C., which states:

"The director of education shall prescribe standard requirements for day schools for the deaf, blind and crippled, and other instruction of such children entitled to state reimbursement, which requirements shall include the conditions under which such schools are conducted, the methods of instruction and supervision, the qualifications of teachers and the conditions and terms under which they are employed, the special equipment and agencies for instruction provided, and the conditions of the rooms and buildings in which the schools are held."

Supervisors have paid particular attention to the costs of operation. The cost of saving sight is necessarily high, but it has been the constant endeavor of this division to see that every dollar of expenditure is justified.

It is worthy of note that, while the law permits a maximum expenditure of \$375 per child, the actual cost of operation has been held to a much lower figure. This is evidenced by the financial statement, which is presented in Section VI.

The following items enter into the cost of operating a sight saving class. However, not all classes have every item.

Special teacher	Supplies—
Music teacher	Transportation—carfare, pupils,
Social worker	and guides—
Readers for high school children	Fee for guides
Supervision—Educational	Food—one hot dish for class
Medical (oculist fees for indigent children)	Board—for out-of-town children
Books—clear type	Permanent equipment—
	Special desks, artificial lighting, etc.

## IV.

### SURVEY OF SIGHT SAVING CLASSES

In 1913 laws were enacted by the legislature authorizing boards of education to make application to the Director of Education for permission to establish schools for blind, deaf, and crippled persons. Classes for children with partial vision are required to have an average attendance of not less than eight.

The growth of these classes has been steady and has more than kept pace with state money available for this purpose.

The report of the state auditor shows there were 30 sight saving classes operating with state subsidy during the school year 1921-2.

During the past year there were 52 classes throughout the state.

They are located as follows:

<i>Cities</i>	<i>No. Classes</i>	<i>No. Bldgs.</i>	<i>No. Pupils</i>
Akron .....	1	1	15
Alliance .....	1	1	10
Ashtabula .....	1	1	12
Barberton .....	1	1	9
Campbell .....	1	1	11
Cincinnati .....	6	5	95
Cleveland .....	19	15	243
Cleveland Hts. ....	1	1	12
Columbus .....	2	2	22
Dayton .....	2	2	29
Hamilton .....	1	1	10
Lima .....	1	1	13
Lorain .....	1	1	17
Mansfield .....	1	1	14
Middletown .....	1	1	13

Norwalk .....	I	I	9
Oak Harbor .....	I	I	10
Portsmouth .....	I	I	14
Sandusky .....	I	I	13
Springfield .....	I	I	13
Toledo .....	3	3	45
Warren .....	I	I	13
Youngstown .....	3	3	42

NOTE: Since the time covered in this report, Canton opened a class and Toledo a fourth class.

Numerous surveys throughout the country seem to prove that the ratio of sight saving enrollment to the total school enrollment is about 1 to 500. In industrial centers this ratio will be higher.

The accompanying table shows the cities in Ohio maintaining sight saving classes and whether the enrollment in these classes reaches the normal expectancy.

City	School Population				Sight Saving Enrollment			Ratio	Shortage in Number of Pupils†
	Elem. Grades	Jr. H. S.	Sr. H. S.	Total	Elem. grades	Jr. H.S.	Sr. H.S.		
Akron	31,096	.....	7,153	38,249	15	...	...	1-2500	61
Alliance	4,337	.....	1,164	5,501	6	4	...	1-500	0
*Ashtabula	3,216	.....	1,117	4,333	5	6	1	1-300	0
*Barberton	3,400	.....	750	4,150	8	1	...	1-400	0
*Campbell	2,686	654	260	3,600	10	1	...	1-300	0
Cincinnati	41,054	1,543	7,211	49,808	61	18	16	1-500	0
Cleveland	86,837	29,917	15,807	132,561	166	57	19	1-500	0
Cleveland Heights	4,012	1,465	1,050	6,527	12	...	...	1-500	0
Columbus	23,005	8,480	5,318	46,803	22	...	...	1-2000	71
Dayton	23,083	.....	5,322	28,405	25	2	...	1-1000	29
Hamilton	4,953	412	1,013	6,378	12	...	...	1-500	0
Lima	6,157	1,308	1,788	9,253	13	...	...	1-700	5
Lorain	5,208	1,866	1,268	8,342	8	9	...	1-400	0
Mansfield	4,190	.....	1,215	5,405	6	3	5	1-300	0
Middletown	4,228	370	970	5,568	9	2	2	1-400	0
*Norwalk	680	195	369	1,244	6	3	...	1-100	0
*Oak Harbor	296	.....	226	522	9	1	...	County Class	

Portsmouth	7,774	.....	1,096	8,870	13	...	...	13	1-600	4
*Sandusky	2,900	.....	1,058	3,958	5	9	...	14	1-200	0
Springfield	7,558	2,467	1,527	11,552	13	...	...	13	1-800	7
Toledo	34,709	.....	7,502	42,215	38	5	2	45	1-900	39
Warren	4,746	1,529	840	7,115	10	3	...	13	1-500	0
Youngstown	23,085	2,581	4,021	29,687	25	20	1	46	1-600	13

\*Following the ratio of one sight saving pupil in every 500 of school population, it would take an enrollment of 4,000 to have enough candidates for a sight saving class in order to make a minimum class of eight. The cities marked with \* have a population under the 4,000 mark. This speaks well for the careful surveys which have evidently been made in these communities. These cities, in some cases, are taking care of children from the entire county.

†This column shows how far the sight saving class enrollment falls below the normal expectancy, as determined by applying the ratio of 1 to 500.



Based upon the minimum requirement of 8 pupils for a sight saving class, the application of the standard ratio of 1 to 500 also indicates that each of the following cities should have enough pupils for a class of this type:

East Cleveland

East Liverpool

Lakewood

Marion

Newark

Steubenville

Zanesville

## V. RURAL WORK

There are all over the state children with serious eye difficulties, living in communities too small to support a sight saving class. There are various ways of meeting this condition. The consolidated school could, in some instances, make the establishment of a class possible. This has not yet been developed in Ohio; or in any other state, so far as can be ascertained.

Children in communities near cities having such classes may attend them under the provisions of the Ohio law. This can be arranged either by daily transportation or by providing a boarding home.

The sight saving center, placed geographically so it can serve a county, has been developed and found practicable. It is rather expensive because of the cost of daily transportation, but is proving less expensive than it would be to send these children to the nearest city. It has the further advantage of permitting them to live at home.

An application of the standard ratio to county school enrollments is interesting. Since eight is the minimum for a class, it could not be expected that a county school system with less than 4,000 enrollment would have sufficient cases. However, 62 of Ohio's 88 counties have school enrollments of 4,000 or over. It is likely, however, that all the difficulties inherent in an attempt to set up one class for an entire county would not permit of considering any county whose enrollment was not sufficient to provide at least twelve candidates for a sight saving class. Of this number, perhaps the requisite eight could be obtained.

A study of the enrollment figures shows that twenty-eight counties have 6,000 or more pupils. One or more sight saving classes already exist in cities in twelve of these counties. The remaining sixteen counties in this list offer the most likely opportunities for the organization of county classes. However, since it seems to be established conclusively that special schools cannot be made to serve a very large district, there is no assurance that successful classes could be organized. A widely scattered population is a serious obstacle. The condition of the roads and the kinds of transportation facilities available are conditioning factors which may be detrimental.

The sixteen counties indicated above are: Athens, Belmont, Clermont, Columbiana, Darke, Guernsey, Jefferson, Lake, Lawrence, Licking, Perry, Miami, Tuscarawas, Muskingum, Wood and Wayne.

Although the Ohio law is adequate to provide for the education of visually handicapped children who live in small communities or in the country, it has proved to be of comparatively little value, because of parental objection to the child's being away from home. The opposition is found more often when the vision is such that the child can attend the regular class and make reasonable progress. The parents, in many instances, do not seem to recognize the cost of such procedure to already over-taxed eyes.

If a community is willing to sponsor a class, much cooperation is needed to get it started. Unless there is a good county nurse available the task is almost hopeless.

One of the difficult problems is to find the children. The State Department of Education, through its divi-

sion of child accounting, is endeavoring to obtain a more accurate enumeration of handicapped children. This will help to bring out the cases having the most serious loss of vision.

Even with a complete list available, there is still the big task of getting the proper refraction for each child. This is particularly true if the county has no opthamologist. The State Department of Health could greatly assist by organized clinics similar to those now provided for the examination of crippled children.

A child who is denied the privilege of attending a sight saving class may derive some benefit from the use of large type books. The teacher of such a child should make every effort to familiarize herself with the methods used in a special class. This does not, of course, approximate the value of attending a sight saving class; it is merely better than the possibility of having the child lessen his vision by the use of small type, or in other ways which can be avoided if a teacher has some knowledge of sight saving methods. Every teacher should have some understanding of correct lighting and seating conditions.

All health courses in normal schools should be so organized as to provide that some time shall be spent by the students in learning how to conserve the vision of the children who will be under their care.

A state provision for the examination of the eyes of all school children, if faithfully carried out, would solve the problem of finding the children who should be educated in a special class. Such examination would not only find the children, but in many cases the correction might be made early enough to avoid the possibility of the pupil needing the class later.

## VI.

### FINANCIAL SUPPORT

#### *Subsidy*

For the school year 1925-26 there was available, by direct appropriation of the general assembly, \$165,000 for the support of sight saving classes in the state. The subsidy is paid to the board of education maintaining a special class by the treasurer of the state upon order of the Director of Education.

The Ohio law makes adequate provision for a state subsidy to school districts which will cooperate; in fact, it is the most generous provision made by any state. This is, without question, the main reason for the general development of the work. This subsidy is determined as follows: the cost of educating a pupil enrolled in the regular classes is first computed. This per pupil cost is subtracted from the per pupil cost in the sight saving class maintained in the same school system. The state then grants funds sufficient to cover this excess cost for every sight saving pupil. There is a maximum limitation, however, which specifies that this state reimbursement must not exceed \$375 per child. Actual reimbursements are much less.

#### *Board*

In addition to the above subsidy, a board of education maintaining a special class may receive up to \$250 per year for boarding a child who is not resident in the district.

### *Tuition*

Tuition is paid by the board of education of the district in which the child resides to the district operating the special class. This sum is not subject to reimbursement.

### *Transportation*

The cost of transporting a child to a special class may be charged as a part of the excess cost of the class. Guides are paid from this fund also.

### **Per Capita Cost**

The average per capita reimbursement is \$209, based on enrollment. If the cost is figured on a basis of pupil years (a pupil year being the equivalent of one child in school every day), the excess cost will amount to \$264.

In order to ascertain the average total per capita cost, (which is the amount paid by the state plus the amount paid by the city), to these figures must be added the average normal cost of cities maintaining these classes. This amount is \$60.

Per capita costs vary greatly in cities operating classes. This is due to teaching cost, size of classes, transportation cost, number of required special activities and services, and overhead.

Cost of certain items such as equipment and supplies are almost standard.

The cost of conducting sight saving classes has decreased to a gratifying extent during the past three years. This is due to:

- (a) *Increased number of clear type texts available*

There has been a co-operative arrangement among the states having sight saving classes, whereby an agreement is reached on the titles to be printed. Instead of having a few copies of each of a variety of texts in the same subject, with a resulting exorbitant cost, enough copies are now printed of one particular text in a subject to supply all the classes.

(b) *Increased number of pupils per class*

One significant justification for this increase is the large number of textbooks made available on account of lower costs. This releases much of the teacher's time for other duties. Formerly much of her energy was taken by the tasks either of reading to the children from ordinary type textbooks or of writing out the material in larger type.

Teachers are better trained and more experienced. They gradually become able to properly care for a large number of pupils, up to a certain limit.

(c) *Increased supervision*

Increased supervision has been a decided factor in lessening the cost of classes to the state. Each supervisor is responsible to the state director of special classes for the budgets prepared for classes in her district. Many times her experience and knowledge of where and what to buy are the means of saving considerable sums to boards of education and, finally, the state. In many instances she can arrange for cities to buy supplies together, thereby getting a reduction in price.

## VII.

### SPECIAL STUDIES

#### I. A Study of the Diagnosis of Eye Conditions of Pupils in Ohio Sight Saving Classes

A study was made of the eye conditions of 631 pupils enrolled in the Ohio sight saving classes. The diagnosis given is the one reported by the examining oculist in each case.

It is hoped that this study may be a means of suggesting to interested persons the type of eye cases requiring placement in sight saving classes.

Opthalmia neonatorum .....	9
Trachoma (old) .....	4
Corneal ulcers .....	4
Corneal opacities .....	11
Corneal scars rotary ocular nystagmus and mixed astigmatism .....	1
Corneal ulcers with hyperopia .....	1
Phlyctenular ulcers .....	1
Phlyctenular keratitis .....	2
Interstitial keratitis .....	53
Interstitial keratitis with secondary myopia.....	1
Keratitis following forceps delivery.....	1
Leucoma O. D. (Cataract O. S.).....	1
Macula .....	6
Iritis .....	2
Cyclitis .....	2
Uveitis .....	2
Congenital detachment of the retina.....	2
Cataracts—Congenital .....	50
Anterior polar .....	2
Posterior polar .....	2
Lamellar or zonular.....	1
Dislocation of the lens.....	2
Distortion of the lens with astigmatism.....	1
Lens and deposits.....	1



Deposits .....	I
Retinitis .....	2
Retinitis pigmentosa .....	4
Retinal changes and astigmatism.....	2
Congenital coloboma of retina in macular region.....	I
Retino-choroiditis .....	4
Coloboma of the retina.....	I
Choroiditis .....	17
Disseminated choroiditis and (optic atrophy).....	2
Central choroiditis .....	4
Syphilitic choroidoretinitis .....	6
Choroiditis (and optic atrophy).....	7
Choroiditis (and interstitial keratitis).....	I
Macular choroiditis (and optic atrophy).....	I
Albinism with myopia .....	2
Albinism .....	10
Intraocular and optic nerve changes with hyperopia.....	3
Optic atrophy and high astigmatism .....	2
Imperfect nerve development.....	2
Partial optic atrophy with nystagmus and hyperopic astigmatism .....	I
Optic atrophy .....	30
Injury of eye and myopia.....	I
Congenital malformation .....	I
Fundus underdeveloped .....	I
Sympathetic ophthalmia .....	I
Buphthalmos O. S. Hyperopia O. D.....	I
Accident .....	I
Atrophic globe .....	I
Congenital microphthalmos .....	I
Congenital amblyopia .....	10
Amblyopia ex-anopsia .....	2
Strabismus with compound hyperopic astigmatism.....	25
Convergent strabismus and hyperopia .....	11
Alternating strabismus with hyperopia.....	3
Strabismus and astigmatism.....	I
Strabismus and compound hyperopic astigmatism.....	2
Strabismus and congenital amblyopia.....	2
Convergent strabismus .....	5
Strabismus with nystagmus .....	2
Convergent squint with nystagmus.....	2
Myopic choroiditis .....	6
Hyperopia .....	32
Hyperopic astigmatism .....	47
Compound hyperopic astigmatism (with nystagmus).....	4
Myopia .....	68
Progressive myopia .....	29

Myopia (with nystagmus).....	5
Compound high myopia.....	1
Myopic astigmatism .....	35
Compound myopic astigmatism.....	22
Myopia (and stretched nerve head).....	1
Astigmatism, high .....	4
Astigmatism, mixed .....	10
Mixed astigmatism with nystagmus.....	3
Myopic astigmatism with strabismus.....	1
High myopia and choroiditis .....	1
Myopia (one eye) hyperopia (other eye).....	1
Hyperopia with nystagmus.....	2
Hysterical amblyopia .....	1
Nystagmus .....	12
Unknown .....	2

## II. Binet Testing in the Sight Saving Classes of Ohio

The test used in the sight saving classes is the regular Terman revision of the Binet tests, with a slightly easier grading of the vocabulary test. The list as revised by Porteus of the Vineland (N. J.) Training School is used and is found very satisfactory with the sight saving children. For the "finger readers," the Terman revision is followed closely but with some substitutions and transcriptions of the visual tests.

For the first few years that the sight saving classes were tested, all the children were retested once a year; now, however, it is found better to test them only once or perhaps twice, in order to establish their proper I.Q. without a doubt, then to test only the incoming children each year and the problem children.

In Cleveland, where it has been found very profitable to train the pre-school children, on the principle that blind or semi-sighted children have to have stimuli brought to them, whereas sighted children get their training largely from seeing things and people, tests have been made of these infants every year, to note

their mental growth, see wherein they are lacking and try to supply that in their training.

Each applicant for the sight saving class must have an I.Q. above 70%. The divisions of mentality according to I.Q. are as follows:

Below 70%	Feeble-minded
70%-80%	Borderline
80%-90%	Dull
90%-110%	Normal
110%-120%	Superior
120%-140%	Very superior
Above 140%	Near genius or genius

The approximate percentages of last year's testing are:

Percent Superior	12.8
" Normal	58.6
" Dull	25.4
" Borderline	3.2

### III. Spelling Ability of Sight Saving Pupils

During March, April and May, 1926, a spelling test was given to the pupils in the 37 sight saving classes of northern Ohio. The Morrison McCall spelling scale was used. The spelling achievement of sight saving pupils in these classes compares with the norms obtained from testing thousands of pupils of the same grade as follows:

Grade	2	3	4	5	6	7	8	9
Number tested...	34	41	54	51	59	56	32	11
Average number of words correct in regular grades.	11	18	24	30	35	39	42	44
Average number of words correct in sight saving classes	9.8	17.9	23.4	29	34.1	36.9	40.4	42.3

COMPARISON OF 1925 AND 1926 SPELLING ACHIEVEMENT OF SIGHT SAVING PUPILS

<i>Grade</i>	2	3	4	5	6	7	8	9
Number tested—								
1925.....	29	37	42	30	58	37	25	5
1926.....	34	41	54	51	59	56	32	11
Average number of words correct in regular grades.	11	18	24	30	35	39	42	44
Average number of words correct in sight saving class —								
1925..	8.1	16.5	24.6	29.5	32.2	36.0	39.1	42.2
1926..	9.8	17.9	23.4	29.0	34.1	36.9	40.4	42.3

Many sight saving teachers have thought that pupils with impaired vision ranked very low in spelling achievement. In the spring of 1926, list 1 of the Morrison McCall spelling scale was given to the pupils in sight saving classes in northern Ohio. This test proved that the spelling ability of these pupils did not compare unfavorably with the spelling ability of pupils in the regular grade rooms. In the spring of 1926, list 2 of the same scale was used. The results showed some improvement over the 1925 test. The rather low average for second grade is believed to be due to the very small amount of writing done by pupils of that grade.

A study of pupils with high spelling brightness (60 and over) was made, also a study of pupils with very low spelling brightness (30 and below). A comparison of spelling brightness with the intelligence quotient of each individual on the list seemed to show that while pupils with high intelligence quotients may be poor spellers, pupils with low intelligence quotients are not good spellers. A comparison of the spelling brightness of these individuals with the amount of vision seemed to show that the amount of vision had little in-

fluence on the spelling brightness. Some pupils with very little sight had a very high spelling brightness, while on the contrary some pupils with poor spelling brightness had a fair amount of sight as compared with many pupils in sight saving classes.

The recommendations based upon the results of this test are:

- A. Pupils should be given special spelling lists made up from words used in geography, history, language, physiology, etc., to compensate in part for the small number of times these pupils see the words.
- B. Teachers should place greater emphasis on spelling. They should stress concentration and observation on the part of pupils when they first see an unfamiliar word.
- C. Special spelling lessons should be given pupils in junior high school classes. Spelling is not on the schedule of many of the seventh, eighth, and ninth grades for regular classroom work, but a study of the spelling brightness of many pupils shows that the spelling brightness drops many points after spelling lessons are discontinued.

#### IV. Graph Showing Grading of Ohio Sight Saving Pupils by Chronological Age

Figures inside black lines indicate number of pupils of normal age for the different grades.

Figures to the right of the black lines indicate number of pupils over age.

Figures to the left of the black lines indicate number of pupils under age.

This graph covers the second semester, 1926. Ages are figured as ages nearest to June.

[illegible]

## SUMMARY

Percentage under normal age.....	3.0
Percentage normal age.....	54.7
Percentage one year over normal age.....	22.2
Percentage two years over normal age.....	12.1
Percentage three years over normal age.....	5.4
Percentage four years over normal age.....	1.4
Percentage five years over normal age.....	0.7

This classification of pupils by grades indicates that 41.8% of the pupils enrolled in sight saving classes are chronologically over age for the grades in which they are enrolled.

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Promotion statistics of June, 1926, enrollment based upon records of Ohio sight saving class pupils since their entrance in sight saving classes.

7.7% of the pupils exceeded the normal rate of promotions  
 16.8% of the pupils failed to make the normal rate of promotions  
 75.5% of the pupils made the normal rate of promotions

The pupils enrolled in these classes made 2148 out of 2229 possible semester promotions.

The percentage of possible promotions made after these pupils entered sight saving classes was 96.3%.

**SUMMARY:** This study indicates that while many sight saving pupils are over age for the grade in which they are enrolled the most of the retardation occurs before their entrance in sight saving classes. The instruction of these pupils, while caring for their visual disability, makes it possible for them to make the high promotion record of 96.3%.

**NOTE:** These statistics are based on the records of 513 pupils.





## SUMMARY

Percentage under normal age.....	3.5
Percentage normal age.....	60.7
Percentage one year over normal age.....	28.0
Percentage two years over normal age.....	7.4
Percentage three years over normal age.....	1.9

A comparison of classification by grades of sight saving pupils second semester, 1923, and second semester, 1926, reveals the following:

	1923	1926
Percentage under normal age.....	1.9	3.5
Percentage normal age.....	46.7	60.7
Percentage one year over normal age.....	28.8	28.0
Percentage two years over normal age.....	13.4	7.4
Percentage three years over normal age.....	8.3	1.9
Percentage four years over normal age.....	0.0	0.0
Percentage five years over normal age.....	0.6	0.0

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Promotion statistics of June, 1926, enrollment based upon records of all the pupils since their entrance in the Cleveland sight saving classes are as follows:

20 pupils exceeded the normal rate of promotions  
 32 pupils failed to make the normal rate of promotions  
 153 pupils made the normal rate of promotions.

The pupils enrolled in these classes made 1064 out of 1087 possible promotions since entering sight saving classes.

The percentage of possible promotions made after these pupils entered the sight saving classes was 97.9%.

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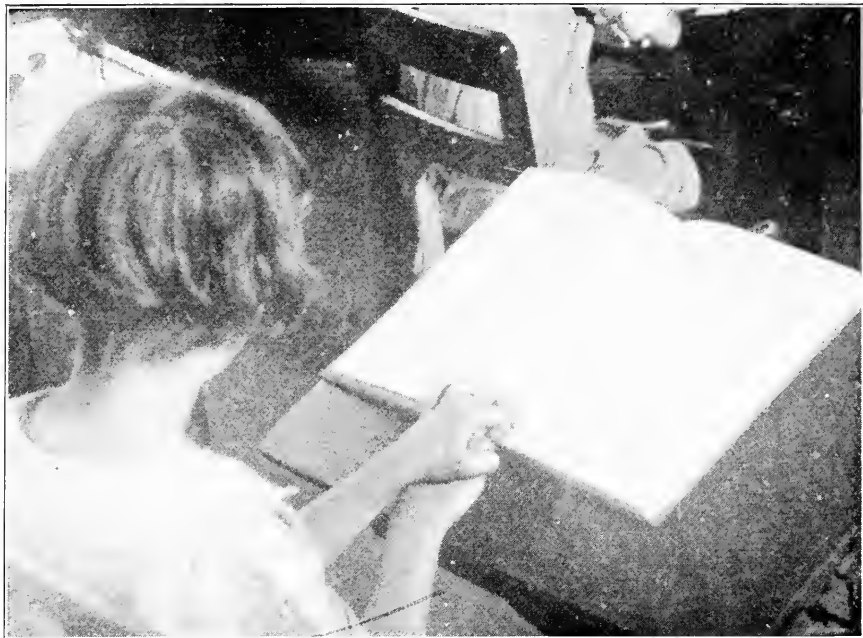
Comparison of promotion records, Cleveland sight saving classes, shows distinct improvement in the past three years.

Percentage of promotions made after pupils were enrolled in sight saving classes :

1923	1926
93.7	97.9

Comparison of promotion rates in Cleveland sight saving classes :

	1923	1926
Percentage of pupils making normal rate of promotion .....	60%	74%
Percentage of pupils exceeding the normal rate of promotion .....	15%	9%
Percentage of pupils failing to make the normal rate of promotion .....	25%	15%



Sight saving class pupil reading large type book



A guide brings these two children to the class



## **VIII.**

### **SIGHT SAVING CLASS REPORTS**

#### **Akron**

In the fall of 1924 the first sight saving class for Akron was started. A very pleasant, large room with four northern windows had been selected in Bowen School, the most centrally located of the public schools.

The idea of a class for children with defective vision was so new to Akron families that the problem of organization was a slow one. Practically all of that first September was spent in selling the idea to the community. Visits to other schools, to principals, to nurses' meetings, and many to homes were made before a group of eleven children, who needed the special help badly, was finally assembled.

The Lions' Club helped to subsidize the new class which started in the autumn of 1924. They furnished a generous fund for glasses or other supplies than those furnished by the city and state. The individual members of the Club made visits to homes helping to explain the object of the new class and lent their cars to help make the necessary surveys. Ever since the class first started the members have tendered many kindnesses to the children.

One of the first things done was to make the somewhat bare room more attractive with ferns, flowers, and colorful posters. The clock and all pictures were lowered to eye level and a definite rule established that no object should be shown in the sight saving room that was not clearly visible to the children.

Besides the regular school work of the grades, craft work has been taught for occupational work. Many posters have been made and the class printed a newspaper which has been called the Lions' Cub in honor of their benefactors.

Many visitors have come to the sight saving room, especially during the first year—townspeople—nurses—medical people—even classes of psychology and sociology from the Akron University. The class was written up by local newspapers.

With two exceptions the subject matter taught has been identical with that of the course of study for the regular student. Manuscript writing has been tried and some really beautiful writing has been accomplished. The clear cut letters as well as the spacing seem to make this type of writing peculiarly good for children with low vision. It was made optional with the class and most of the upper grade pupils prefer it to the familiar script. Touch typewriting has been taught to upper grade students.

But the greatest departure from the beaten path is the weekly class in Eye Hygiene in which each pupil is taught his own eye limitations and a foundation laid for successful vocational guidance which should, later, lead to economic independence.

A marked improvement has been shown in all the school work and a 99 per cent promotion record established. This is notable, as the first class averaged four non-promotions per pupil, including as it did one case of a boy having a record of twelve non-promotions—an exceptional case, of course.

The improvement in school work, noticeable as it is, is not comparable with the psychological effect upon

pupils of this type when they are placed in an environment which makes accomplishment possible for them. They seem so much happier, brighter, more confident of their abilities. Even the physical appearance of several seems improved,—more alert expression and more care to their personal appearance.

An attempt has been made throughout the school to give these children some little prominence in the school organization. This has helped several apparently uninterested ones to a better school spirit.

At the close of the second year the room is found well equipped; with a library of clear type books, a large typewriter, colorful curtains and pictures.

The work is well started with a full class enrollment and a waiting list which will before long justify a second class. One of the girls has gone to high school where she is making a really fine average.

### **Alliance**

A sight saving class was opened in Alliance, Ohio, in January, 1917. There were seven children in the first class.

The class is now nine and one-half years old and the charter members have all disappeared. During this time twenty-two different children have been enrolled, twelve boys and ten girls.

Three of the children have finished the eighth grade during this time and attended high school for a while. Two others have now completed the elementary grades and expect to attend high school. A number of children have been permitted to return to their regular grades because of improved eye conditions.

The Lions' Club has been interested in the class

and has remembered the children at Christmas time and also taken some of them on camping trips.

### **Ashtabula**

The sight saving class of Ashtabula was organized January 8, 1916, with Miss Olive Peck, who is now one of the State Supervisors of Sight Saving Work, as the first teacher. The room chosen in the Division Street building is attractive in location, lighting and surroundings.

There were at first eight pupils. These were composed of cases gathered in by the school nurse. After the cases had been found, and examined, and the recommendation made by the doctor that they be entered into the class, several visits were made by the nurse and teacher to secure the consent and cooperation of the parents. In many cases this was done with great difficulty.

Of the twenty-three entries into this class five have quit, three moved out of town, two returned to the regular grades, and one has graduated. One boy who entered fourth grade when this class was formed was graduated with full credit with the class of 1925. Three who entered the class in first grade enter the first year of high school next year. One of the original class is a junior. Of those who left, one finished eighth, three went to work, two of these being juniors in high school, and one much retarded pupil quit when past the age of compulsory attendance. Three moved away from Ashtabula. One entered high school in the Florida town to which she moved, one, a junior, did not return to school, and the third was an orphanage case. Two pupils returned to the regular grade.



At the present time there are twelve pupils, four in high school, three in junior high, five in the grades. The pupils are making steady and normal gains in weight and some of them are making steady improvement in their eye troubles.

The class room is very fortunately located, near the center of town, convenient to transportation facilities and other schools. The building contains the first six grades, is next door to the high school, and about two minutes' walk from junior high school. During the winter months the children have their lunches at the high school lunch room.

### **Barberton**

A sight saving class was organized in Barberton, Ohio, in February, 1926, with an enrollment of ten, representing five grades.

This class is too new to be able to report definite results, but gives every indication of supplying a real community need.

Barberton is an industrial center, and has a high per cent of foreign population. This may be one reason for the large number of children who should be educated in a sight saving class. The ratio of one child in every 500 of the school population has already been met, as our ratio now stands one in every four hundred.

Community cooperation has been good.

### **Campbell**

A sight saving class presents a different problem in every city. Campbell has a class located in the heart of a steel mill district. The teacher has taught nine years in this district and is now teaching the third American child during that period.

She is well fitted for the work, as she is both a teacher and social worker and understands the needs of the community. The fact that she has the confidence of all the people in the district is of greatest value.

The class has made good progress since it opened in October, 1925. It has never enrolled a large number of children, but has always had five and, at one time, six divisions represented.

### **Cincinnati**

In 1905 Misses Florence and George Trader organized in connection with the Cincinnati Public Schools the first day school for the blind in Ohio, the second class of this type to be opened in the United States. In 1914, Mr. Robert Irwin reorganized the work and opened a sight saving class.

From this beginning, the work has gradually grown in scope so as to include with the Braille and sight saving classes, general conservation of vision throughout the public schools. Originally these activities were carried on under the head of "School for the Blind" with a "Principal" in charge. In the fall of 1926 this title was changed to "Department for Sight Saving" and the executive was given the name "Director". This is significant of the broadening field and change in status, which has taken place in the past ten years.

This department for sight saving has for its aim, not only the care of children with defective vision but in so far as possible the conservation of vision among those who have normal sight. The immediate agency for carrying this on has been a group of teachers, one from each public school building in the city, which meets several times a year to further the cooperation between medical and educational interests in sight saving.

There originated in this group the idea of relighting some of the older school buildings so as to give all children the right lighting conditions under which to use their eyes. These teachers have been of great assistance to the nurses and doctors in caring for the routine eye cases, seeing that glasses are worn when prescribed, and that they are kept straight and clean. It is hoped in this way that sight saving will have a definite meaning for every public school child in Cincinnati.

For admission to the sight saving classes each child must have a complete eye examination to discover pathologic conditions as well as refractive errors. The pupil must also have a mental test. A good many of the children needing this type of work are found by the school doctors who have charge of the medical inspection work in the schools and are under the direction of the Board of Health. Other cases come to our attention through the interest of teachers and social workers. After admission to a sight saving class a yearly examination of the eyes is made by the oculist or clinic which originally sent the child in.

The 95 children in the Cincinnati classes (elementary and high) on the 1 to 500 basis is equivalent to a school enrollment of 47,500. This would seem to mean that with about 100 pupils enrolled the field would be covered.

### **Cleveland**

Sight saving classes were opened in Cleveland, the second city in this country to establish them, in the fall of 1913 under the supervision of Mr. Robert B. Irwin. From that year, when they were but a small division of the Department for the Blind, they have shown a yearly increase both in actual numbers and in the ratio of sight saving pupils to the total school enrollment.

There are several factors in this growth which are more significant than the mere numerical increase. By consistently bringing to the attention of oculists, nurses, teachers and parents the purposes of the sight saving classes, the city as a whole has been aroused to their value and has become more desirous of referring pupils to them. The medical inspection in the school system is now finding practically all of the pupils who need this specialized educational opportunity. Furthermore, the annual statistics show that in the past five years a larger number of pupils has been enrolled in sight saving classes in the first three grades. Formerly pupils with poor eyesight went as far as they could in the regular classes, acquiring a series of faulty habits and general laxity in school life. As a final resort they were referred to sight saving classes. By advocating the plausibility of transferring younger children before they have failed, become behavior problems, or been subjected to serious eye strain, the classes have been able to give them the proper start and the results unmistakably prove the value of special work early in their school careers.

For several years past, pre-school work similar to that carried on in the homes of blind children has been extended by visiting teachers to the homes of children with lesser eye defects. These home visits have the advantage of bringing the importance of proper home training to the parents, and the means of accomplishing it. The children then have a better opportunity of developing normally and of being prepared to enter kindergarten and the first grade sight saving class at the proper age. The educational opportunity therein presented insures normal progress through the grades, other things being equal, in spite of the lack of normal

vision. The system is spared these pupils as failures and repeaters.

Cleveland has three visiting teachers, among whom a considerable number of duties are divided. The enrolling of new children in sight saving classes often entails selling the idea to the parents before they will consent to the transfer. Guides must be obtained to take the small children. The visiting teacher makes contacts with the oculists of the city, calls at the homes of the pupils, and at school. She helps the parents to an understanding of sight saving methods and the reasons for them. She urges cooperation from them in order that sight saving methods may be carried out in the daily home life of the child. She plans with the parents and teachers for the pupil's future and, when necessary, helps him make the proper social adjustment in his community. When the pupil enters high school she guides him in the selection of his studies. When he goes to work she helps him to select the type of work which he desires and for which he shows an aptitude, but which will not be injurious to his sight. It is sometimes necessary for the visiting teacher to effect the actual placement. In all cases she keeps in touch with the younger worker until assured that he will be able to make a satisfactory vocational adjustment under suitable working conditions.

From their inception the classes in Cleveland have provided music and handwork as special subjects in sight saving classes. These subjects are taught to pupils with due regard to the eye condition of each individual child. Pupils whose sight must be used as little as possible have rote singing, music appreciation, rhythm classes, which give excellent training for bodily poise and bodily relaxation, and ensemble work with simple

instruments, many of which may be made by the pupils in the primary class work. For pupils whose eyes are not in so serious a condition, but whose sight limits them in competing socially, such work as piano lessons and band instrument lessons are valuable, not only from the professional but from the social point of view. Even if the pupil is not very talented there may be some instruments, such as the drum, the bones, or accordeon, which he can learn to play so well that his place in his home community will be established and he will no longer be a looker-on, but a participant, and perhaps the entertainer of the group. In this way music may lead to safe and worthwhile uses of leisure time, and in some cases to professional opportunities.

We know that it is natural for many children to read. No sight saving class can keep a pupil from this in his leisure time, unless it offers interesting substitutes, and follows up the application of these by home visits from teachers and visiting teachers.

Handwork is taught not only because of the importance of developing manual skill, muscular coordination, and for other similar objectives, but also to provide the child with the knowledge of how to make simple, useful and attractive objects in his leisure time. These may be sold or used as gifts; but their principal value from oculists', parents' and teachers' point of view is to occupy the child in a manner not harmful to his eyesight, and at the same time to fulfill his normal desire to make things. Incidentally he may learn to market his goods and to gain ideas of buying and selling materials.

The aims and procedure of conducting these classes beyond what has been described are in general similar to the original Cleveland plan described herein under the caption "The Ohio Plan".

DIVISION FOR SIGHT SAVING AND BLIND  
CLEVELAND  
1925-26

Number of classes.....	19	
Elementary .....		15
Junior High .....		4
Number of buildings.....	15	
Enrollment —		
September .....	230	
June .....	239	
Lowest enrollment .....	226	
Highest enrollment.....	245	
Percent of myopes.....	38	
Number of regular schoolroom teachers.....	22	
Number of full time special teachers.....	9	
Number of part time special teachers.....	2	

### Cleveland Heights

In every community there comes a time when a need for developing a new field is clearly visualized. No doubt it has been little thought of by some, but there is always sure to be a person or group of persons, who can look far enough ahead to regard the need greatly worth the time and effort required in the construction of such a new venture.

In this community of Cleveland Heights where schools are among the most modern as to style, methods, in fact all things pertaining to education,—it would seem that there could be nothing lacking to further the needs of the child. All was very well for the average child, but so far no one had given much thought to the child who was struggling to appreciate his school, his studies and activities in general, but with no avail, for he seemed constantly to be falling behind. This was the child with defective eyesight.

Upon completing the physical examination of the children, the school nurse in a certain building discov-

ered several pupils whose eye conditions made their school work not only a burden, but something that should be greatly lessened or curtailed entirely. The report of this discovery gradually resulted in the finding of other children from other buildings, who were to belong in this same group.

Then came the question of a "Sight Conservation Class" for this community, having it as centrally located as possible. So with the cooperation of the nurse, the principals, parents, and the Board of Education, a class was organized, transportation arranged for, and equipment ready to open October 12, 1925.

The class consisted of ten children representing five divisions and it now has an enrollment of fourteen representing seven divisions.

In the spring, a letter of appreciation, signed by the parents of pupils in the class, was sent to those responsible for its organization.

### **Columbus**

November, 1924, marked the opening of the first sight saving class in Columbus at Hubbard Avenue School Building in the north end of the city. Owing to a large building program it had been necessary to delay somewhat the opening of this first class. Its need was soon evidenced when there were enrolled twelve children in seven divisions. At the end of the year one child was able to return to his grade, due to improved eye condition.

March 1, 1926, a second center was opened in the Main Street building, which is in the eastern part of the city. This center has also rapidly filled.

It is the intention to open another center in the



southeastern section as soon as there is a room available.

Many good results have come from numerous home visits made by both the teachers of the sight saving classes — not only for the pupils enrolled, but for children in the grades.

### **Dayton**

In the autumn of 1922, the first sight saving class was opened in Dayton. The preceding summer the teacher who was to have charge of the class attended Columbia University, taking the course in sight conservation.

The new movement was met with greatest courtesy and interest, both by the oculists and the city department of health under whose direction the school nurses worked. By consulting nurses and various available records it was found that fifteen children were eligible for the class. A room conforming to the state requirements was selected in the new addition to the Patterson School. Before the year ended it was necessary to give the teacher an assistant.

The next fall a second class was opened at the Irving School with the assistant in charge, she also having had special training at Columbia. The second classroom was also in a new addition and well located.

At present there are fifteen children in the Patterson class and ten at Irving. The children in the Patterson class are in the sixth, seventh, and eighth grades, while the children in the lower grades attend at Irving. There are two girls in junior high schools who have readers.

### Hamilton

A number of interesting facts have developed as a result of the opening of a sight saving class in October, 1924, — many more children have benefited than the ten who are enrolled. The school nurse and teacher of the sight saving class have planned to visit in the homes of all children with vision of 20/40 or less. If the parents are unable to purchase glasses they will endeavor to send them through the school clinic — and this has already been done in some cases.

Particular attention is paid to the children with defective vision in the lower grades, hoping to get for them thus early every benefit possible. Many times it has been found possible to give them normal vision with glasses.

Up to the present time forty home visits have been made.

One fourth grade boy came into the special class as a second grade pupil and in a semester and a half was doing fourth grade work.

As other rooms in the school system have been re-decorated, the same colors have been used as are approved for the sight saving class.

### Lima

Because there were a number of children in the regular grades who were having difficulty in making proper progress, the board of education decided to open a sight saving class at the beginning of the school year 1925-26.

The class was soon filled and the children enjoyed working under the new conditions. Again and again they expressed pleasure at their ability to see the work

on the blackboard, and their clear type books have been a constant source of pleasure.

There are now thirteen children enrolled in five grades. The teacher has had many invitations to speak to various interested groups. In this and other ways the people of Lima have showed their interest in the class.

### **Lorain**

A Sight Saving Class was organized in Lowell School October 30, 1917, with an enrollment of eight pupils.

As the enrollment increased it was possible to divide the class into two distinct groups, one elementary now in Lincoln School, the other a junior high group in Whittier School. This was done February 1, 1926.

Although the growth in numbers has not been astounding, the individual needs of these children who have defective vision have been adequately met. This has been made possible by the Lorain school medical department.

Several pupils have been returned to regular grade work with the normally sighted children.

With the present interest, many new cases are being discovered which in time will necessitate the forming of other new classes.

### **Mansfield**

The Mansfield Sight Saving Class was established in September, 1916, with two classes and an enrollment of eighteen. These two classes served the partially sighted pupils of the Mansfield public schools for several years until the number of pupils became too few to warrant the continuation of two classes, so one was

abandoned. Since that time one class has been continued with an average enrollment of eleven pupils.

For several years only pupils from the Mansfield City schools were enrolled, but four years ago a pupil from a neighboring village was admitted to the class. This pupil was boarded in Mansfield for two years. At the end of that time a bus line was established, making daily transportation possible.

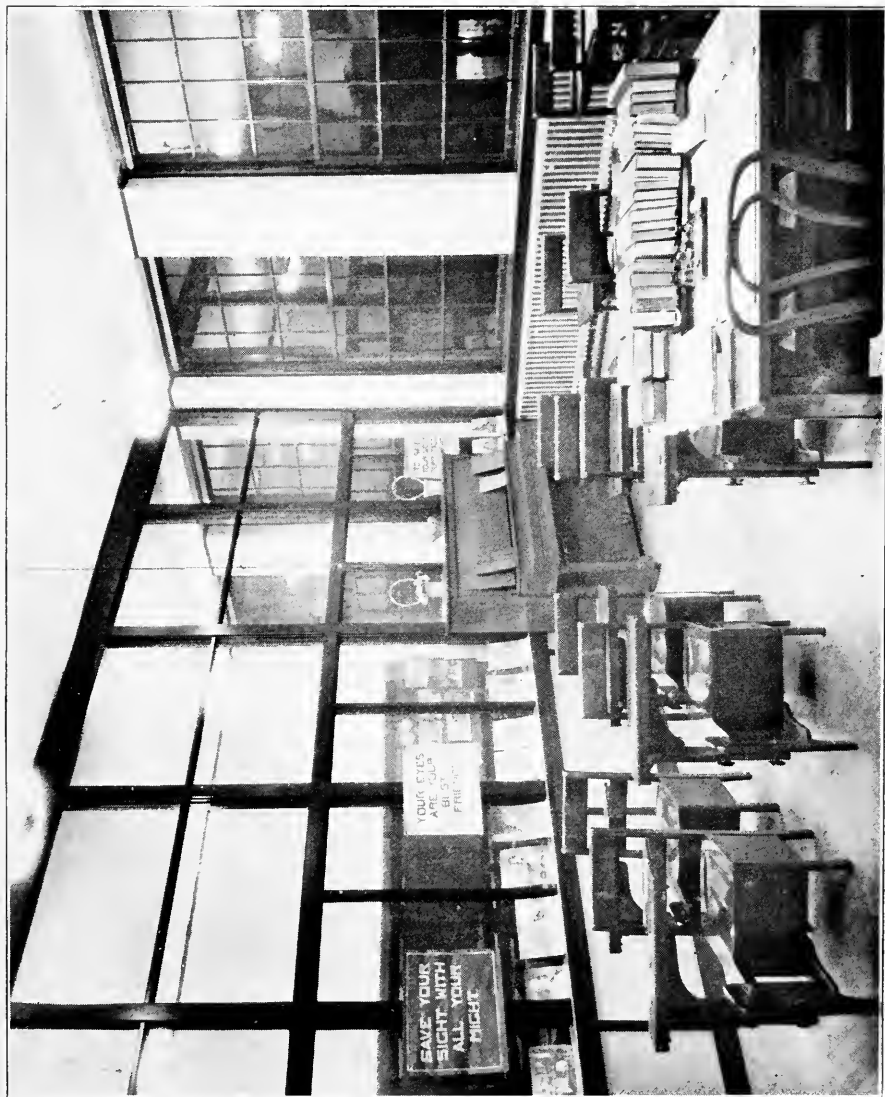
This year four children from the county schools were enrolled in the class. Three of them come from the same family. They come to school each morning and go home each evening on the inteurban car. The other boy lives about two miles from the school and walks that distance each day.

At present there are thirteen children in the sight saving department. Five of these are enrolled in high school. They are doing well in their high school work. One boy who is in 11B is a member of the Honor M Society. Membership in this society is based on average grades of A's and B's. Two other sight saving class boys in 9B are in line for membership.

The high school pupils prepare their work by using sight saving class material and by listening to the readers, who read their lessons to them.

In the elementary grades there are eight children, ranging from grade 2B to 8B. It is interesting to watch their development and improvement. In almost every case within the last two years there has been a great change in each pupil who has entered the class. Where he was timid, he has gained self-confidence; where he has been irritable and nervous, he has overcome his nervousness and has become friendly and happy.

It certainly is an advantage for both teacher and pupil to be able to become so closely associated with each



Sight saving class room where glass partition was used in order to conserve all the day light



other. A part of the success of a sight saving class can be attributed to this fact.

### **Middletown**

The sight saving class in Middletown was opened September, 1923, with ten pupils. Since that time there have been as many as sixteen enrolled, consisting of six grades, and high school boys with readers. At present there is a class of thirteen pupils, eleven in elementary grades, one junior high pupil, and one senior high pupil with a reader. The junior high pupil takes typing and spelling in the sight saving class. The high school pupil reports to the sight saving teacher at regular intervals for a check-up on grades, eye condition, etc. During the past three years twenty-two children have been enrolled in the sight saving class. Some have moved out of the city and been enrolled in other sight saving classes, while two have been returned to the regular grades, due to improved eye conditions.

Last year a seventh grade boy entered the class with a record of grades averaging about 85. He has a high degree of myopia (an eye disease tending to become worse). He made the unusual record of being a straight A pupil in all subjects throughout the whole year. This was achieved without eye-strain, as evidenced by the fact that his oculist was pleased with his eye condition at the end of the year.

Many examples could be given of improved school work, "bad" (?) boys made into good boys, improved physical conditions as well as improved eye conditions.

As a result of the work accomplished in this class, teachers in the school system are becoming more and more eye conscious.

### **Norwalk**

Eight years ago, a Norwalk physician, who is the president of the school board, had "the vision" of a Norwalk sight saving class. With the cooperation of the superintendent of schools and the school nurse, the class was founded.

An ideal location was secured in the Benedict school building. This was a new, well lighted building, and in every way fitted for a sight saving class.

It may be interesting to note that the class has had three teachers. The first left the Norwalk class to introduce sight saving work in the State of California.

In the past eight years, twenty-three different pupils have been enrolled. The school has never had a large enrollment, the greatest number of pupils having been enrolled at one time being eleven. The academic standards in this class have been unusually high. There has been in attendance at various times a number of children from the county. The class has, therefore, served not only Norwalk, but the surrounding districts.

### **Ottawa County**

It may be well to describe somewhat in detail one county class which has been established, and which meets a real need, in Ottawa County, Ohio.

In 1923, the Ottawa County nurse, while examining the children of the schools, found one little child with very poor vision who, if left in the regular school, would have lost her sight entirely. The nurse immediately reported the matter to the child's parents and tried to persuade them to send her to the Toledo Sight Saving Class. The parents asked that a class be established at



home, which was taken under consideration at that time. They finally decided to send the child to one of the Toledo classes.

During the school year 1924-25, the children of the county were inspected by the nurse and enough defective vision was found to warrant a visit from Dr. Toots of the State Commission for the Blind, who was responsible for more complete examinations. His work was done at clinics held at Oak Harbor and Port Clinton, the county seat. The result was that enough children were found eligible for a sight saving class to warrant asking for one for the county.

The next problem was to find a suitable location for the class. It was finally decided to establish it at Oak Harbor, a town of two thousand population, in preference to placing it in Port Clinton, the county seat, which has twice as large a population, because geographically and from the transportation standpoint, Oak Harbor is more nearly the center of the county. Other conditions were also taken into consideration.

1. Oak Harbor schools are a part of the county school system, while Port Clinton is a special district. Since the majority of the children to be served were from the county, it seemed wise to keep the school under county jurisdiction.
2. The majority of the children lived in the Oak Harbor district or near it.
3. The Oak Harbor grades are housed in one building, while the Port Clinton grades are housed in three buildings.
4. The Oak Harbor Board of Education was extremely anxious to have the class. When it was found that there was no room available, the superintendent of schools offered his office.

It is interesting to note that the children in the class are the product of American population and not of foreign or industrial conditions.

The class has ten children in seven grades.

### **Portsmouth**

The sight saving class in Portsmouth was opened on October 26, 1925. Six children reported, representing five different grades. The enrollment was soon increased, however, to thirteen pupils and five grades.

The class is so new that none of the children have yet made up a grade. However, there are two cases who were failing in the regular grades who, since entering the special class, have improved so much in their work that they have been promoted every semester.

These two cases have been designated because there is a greater improvement in their work than in that of some of the others. However, all of the children have made progress in their studies.

### **Sandusky**

The Sandusky sight saving class has been very satisfactory in every way. The oculists have been interested and have helped give the class the good reputation it has in the city.

The class is unusual in the number of divisions represented (this has been true almost from the beginning), but in spite of this the children have done very acceptable work and a number of them have improved in vision.

Handwork is always a special pleasure, and the pupils have not only bought their own materials, but

have earned a nice sum of money for their class projects, selling various small articles they have made.

The class opened September 1, 1922. It has been most fortunate in having the cooperation of all the oculists, nurses, and any others whose services are vital to the success of a class of this type.

### **Springfield**

Bushnell school is fortunate in having a special class for children with defective vision as well as one for deaf and one for crippled children.

The sight saving class was opened during the school year 1924-25. It was fortunate in having the support of the health department and of private oculists.

Before the close of the year fourteen children were enrolled, thirteen boys and one girl. In this group were children in each of the first six grades. There is now a waiting list for a second class.

The pupils' eyes were examined twice during the year. Three were found to be greatly improved, one was able to return to his regular class and three, whose eyes were growing steadily worse, were so helped that the progress of decreasing vision was arrested.

In spite of his handicap, each child kept up with the regular class and was promoted at the end of the year. Two of the boys will enter junior high next fall.

### **Toledo**

Toledo opened its first sight saving class in November, 1915. Prior to this a few children with defective vision were accepted in the class for the blind at Jefferson School. But in 1915 these sighted children were transferred to Cherry School. Eight or nine children

formed that first class. While the building was new, the lighting correct, and everything provided as well as could be, still this pioneer class would have seemed handicapped, if compared to one with our present supply of large type books. There were few books available, and many problems to work out. However, the class prospered and its value was appreciated.

Cherry was a growing district and not centrally located, so in 1917, for these two reasons, the class was moved to Central building, now called Woodward. The enrollment grew until there were too many children for one class, so a second was organized and given an adjoining room. These classes were later reorganized as one class and moved to Navarre School, where it is still located.

Most of the children who were in these early classes graduated from the sight saving class. They profited by the increasing supply of large type books and the other aids of a special class.

The next class opened at Lincoln School. Sight saving work was new to patrons of the Lincoln district. Education of the parents was one of the first moves toward publicity. Many visitors were taken into the sight saving room, where they were shown the splendid equipment and could easily see the advantages of this type of school. The principals of elementary schools in the city were notified to make application if any of their pupils were in need of help of this kind. Pamphlets were sent to oculists in order to explain the work of the school. Their attention was called to the requirements for entrance into sight saving classes. Articles were put into the newspapers so that the public might become acquainted with the work.

At the close of the first year all children were given a second eye examination. Three children were sufficiently improved to return to regular classes. It was found that one boy had accomplished the work of two years, and that two children who had been repeating a grade had been returned to the grade in which they normally belonged. The first year saw the work established at Lincoln School. Since this time it has never been necessary to hunt up recruits. More than a sufficient number of applicants to keep the class filled is usually on hand. The class has numbered twelve and sometimes sixteen pupils. Frequently children have been returned to their regular grades because of improved eye conditions. Excellent equipment has been added from time to time so that more efficient work can be done. There are three graduates of the Lincoln sight saving class in high school. They are doing exceptional work.

A sight saving class was organized in La Grange School in September, 1924. The children, some of them in particular, did not at first wish to be in the class, probably because they felt themselves set apart. However, that attitude is changed and they show a real appreciation of the privileges and advantages of the sight saving class. They are learning their own responsibility in the matter of eye conservation and are realizing that they, as individuals, benefit or lose by the care they take, or do not take, of their eyes.

### **Warren**

Roosevelt School houses the sight saving class at Warren, which was established in January, 1925. There were eight children of various ages enrolled in grades from one to six. This number has varied considerably since that time, although never totaling over twelve.

The children have kept in line with their own classes in commendable fashion.

They are encouraged to bring fresh fruits for their lunch. The hot dish is considered necessary for the proper strengthening of the body which will in turn help to make stronger eyes. When lunch is over the girls take turns at washing the dishes and leaving everything in perfect order for the next day. Often the boys have successfully taken a hand at the dishwashing.

We have had many red letter days during the time the class has been established; and a great many of these have been supplied through the generosity and kindness of the Lions' Club of Warren which has sponsored the class since its beginning. This club has done much to awaken interest in the class since it made its start as a new project. The interest and enthusiasm of its members has been a great encouragement to the children.

### **Youngstown**

Sight saving classes at Monroe School have proved their worth both to the pupils benefited and to the entire student body.

The first class was organized November 7, 1921. The pupils came from various parts of the city and county and were carefully selected. The work of this first class won such approval that a second center became imperative. The fact that these pupils were so able to compete in class room, and often to excel, influenced more parents to request the privilege for their children. A second class was started April 16, 1923, in the same building.

In September, 1924, a third class was opened at Adams school. This class had an enrollment of fourteen. Eight of these were within walking distance of

the school. A few have been transferred for various reasons; but the number remains about the same, as vacancies are quickly filled by bringing in the most needy on the waiting list. The oculist has dismissed two pupils from this class who are now doing regular work without eye strain.

For the first few months the attendance was very irregular, but by close observation and numerous home calls, it was found that this was mainly due to lack of medical attention and home conditions in general. Confidential talks with each individual child about his own particular physical problems, and heart-to-heart conferences with mothers quickly brought their reward.

The boys and girls were soon coming to school and, instead of boasting of how late they had been out the night before, were telling how many hours they had slept.

The school nurse carefully examined each child and great effort was made to have all as nearly normal as possible. Some warm, nutritious food was served each noon with the lunch brought from home and, gradually, there was a decided improvement in both attendance and class work.

After regular habits were formed and medical attention given where needed the most difficult problems were solved. The average attendance for this year is 97.5% in the place of 89% last year.

Adams School has the platoon system in class work and it has been very satisfactory for sight saving class work. At first this was rather bewildering, as the program was quite different each day of the week, but it was soon found that this change was attractive and restful.

Two pupils graduated from the eighth grade last year. One is doing good work in high school and the other has a position in a garment factory. They often come back for advice and help, so they still feel that they are part of the class.

The pupils in these classes have learned that no handicap can wholly defeat them and that courage and industry bespeak success and promotion.



## **APPENDIX**

### **LEGISLATION RELATING TO THE ESTABLISHMENT AND MAINTENANCE OF SIGHT SAVING CLASSES**

#### **As Amended by the Johnston-Ott and Williams Bills Passed in 1925**

Sec. 7755. The director of education may grant permission to any local board of education to establish and maintain a class or classes for the instruction of deaf or blind persons over the age of three, or of crippled persons over the age of five.

Sec. 7755-1. The director of education may arrange with any board of education which maintains a class for the instruction of blind, deaf or crippled persons, or affords special instruction for such children non-resident of the district, to pay for the board of any such persons under such standards and with such restrictions as the director of education may prescribe.

Sec. 7755-2. If a child resident of one school district attends in another district a class for the blind, deaf, or crippled, or a class in which some special instruction needed by the child because of his handicap is provided, the board of education of the district in which he resides may pay his tuition in a sum equal to the tuition in the district in which such class is located for a child of normal needs of the same school grade. The board of education of the district in which such child resides may pay for his transportation to the class in the other district; and the board of education of the district in which the class he attends is located may provide his

transportation to the class. Upon direction of the director of education the board of education of the district in which such child resides shall pay for his transportation and tuition.

Sec. 7755-5. If a child is handicapped by two of the defects mentioned in section 7755, General Code, the director of education may allow him to be counted as a full-time pupil among those with each kind of defect in determining the state's contribution to the classes for such children, provided the types of work and attention necessary for both types of children are afforded him.

Sec. 7757. At the close of each school year, the board of education of each school district in which any such classes for the education of the blind, deaf or crippled are maintained, or any such children are instructed as provided in section 7755-4, or boarded as provided in section 7755-1, or in connection with which any such children are transported as provided in section 7755-2 or 7755-3 may certify to the director of education the names and residences of the persons instructed in such special classes and the period of time each was instructed and the names and residences of the persons boarded or transported under these sections at the expense of the board of education and the period of time each was transported or boarded; and the amount expended for special appliances and for the current operating cost of the education of such pupils, together with statements showing the per capita cost of the education of normal children in the district in the same school grades during the same period of time. The director of education shall be the final authority in deciding all questions relative to what constitutes special appliances

and current operating costs under the terms of this section.

Sec. 7758. The director of education, upon receipt and approval of the report and financial statement provided in section 7757, shall present a voucher to the auditor of state in favor of the board of education in an amount equal to the costs of maintaining such special classes and instruction, minus the cost of the instruction of the same number of children of normal needs in the same school grades of the district, but in an amount not to exceed three hundred and seventy-five dollars for nine months in the case of the blind, and three hundred dollars in the case of the deaf or crippled, and proportionate amounts for those instructed more or less than nine months. He shall include in such voucher the cost of boarding persons included in the provisions of section 7755-1 at a rate of not to exceed two hundred fifty dollars for each person so boarded for nine months during the school year and a proportionate amount for each person boarded for more or less than nine months. He may also at his discretion include the costs of transportation under section 7755-2 or 7755-3 in the voucher in favor of any board of education which has paid the same. Upon presentation of such voucher the auditor of state if satisfied as to the correctness shall draw a warrant on the treasurer of state for the amount.

Sec. 7759. Teachers in such schools shall be appointed as are other public school teachers. They shall possess the usual qualifications required of teachers in the public schools, and in addition thereto such special training and equipment as the state director of education or the board of education may require. The so-called oral system shall be taught by such teachers in such schools for the deaf. If, after a fair trial of nine

months, any of such children in any school for the deaf for any reason are unable to learn such method, then they may be taught the manual method in a separate school, providing, however, that there are not fewer pupils than provided in section 7755 of the General Code.

Sec. 7760. Any person of sound mind who, by reason of defective hearing or vision or by reason of being so crippled as to be physically unable to properly care for himself without assistance, cannot properly be educated in the public schools as other children, shall be considered deaf, blind or crippled within the meaning of sections 7755 and 7757, General Code. But persons with partial hearing or partial vision may also be instructed under the provisions of these sections and of standards prescribed under section 7761.

Sec. 7761. The director of education shall select some competent person or persons to inspect all classes established under section 7755, General Code, at least once a year, and to report concerning the instruction in such classes, the conditions under which they are maintained and the conditions under which such persons are boarded.

The director of education shall prescribe standard requirements for day schools for the deaf, blind and crippled, and other instruction of such children entitled to state reimbursement, which requirements shall include the conditions under which such schools are conducted, the methods of instruction and supervision, the qualifications of teachers and the conditions and terms under which they are employed, the special equipment and agencies for instruction provided, and the conditions of the rooms and buildings in which the schools are held.

Sec. 7761-1. The director of education shall have authority to arrange a plan of cooperation among boards of education which maintain special classes for the blind, for investigation into broader opportunities for the future employment of the pupils and better methods for their instruction. The cost of such investigation shall be charged to the current operating cost of the school for the blind. The director of education shall prescribe the minimum standard requirements concerning the extent of such cooperation and the general methods of such investigation.

Sec. 7763-5. In the case of a blind, partially blind, deaf or crippled child or a child of defective mentality an excuse granted under section 7763 or 7763-4, General Code, on the ground of bodily or mental condition shall not be a valid excuse from attendance by the child upon a day school for the blind, deaf, crippled or those of defective mentality or from attendance at a state institution for the care and instruction of the blind, deaf, crippled or those of defective mentality unless in the case of a day school there are factors in the child's condition or the means of reaching the school which make attendance at such a special class impracticable. If there is a day school for children handicapped in one of the above respects in the school district, or in another district and transportation to such class by school conveyance or common carrier is provided by a board of education or other agency, the superintendent of schools shall be the judge of the practicability of the child's attendance at such school adapted to the needs of children handicapped in the particular respect.

## PRESCRIBED STANDARDS FOR SIGHT SAVING CLASSES

Sec. 7761 of the General Code of Ohio reads as follows:

“The director of education shall prescribe standard requirements for day schools for the deaf, blind and crippled, and other instruction of such children entitled to state reimbursement, which requirements shall include the conditions under which such schools are conducted, the method of instruction and supervision, the qualifications of teachers and the conditions and terms under which they are employed, the special equipment and agencies for instruction provided, and the condition of the rooms and buildings in which the schools are held.”

These standard requirements are not intended as complete statements of the conditions under which a board of education should conduct such classes, but are more properly speaking, minimum requirements with which, in the judgment of this office, any board of education should comply to entitle them to state recognition.

School districts shall comply with these regulations to receive the state subsidy authorized by section 7757 of the General Code of Ohio.

### I. Eligibility of Pupils

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#### *a. Definition of Blindness.*

The definition of blindness under this law reads as follows: “Any person of sound mind, who, by reason of defective \* \* \* vision \* \* \* cannot properly be educated in the public schools as other children, shall be considered \* \* \* ‘blind’ \* \* \* within the meaning of sections 7755 and 7757 General Code. But

persons with \* \* \* partial vision may also be instructed under the provisions of these sections and of standards prescribed under section 7761."

The state grant, under section 7757 General Code, will not be allowed for any pupil until the state director of education or one delegated by him shall be satisfied that the child is blind under the terms of the law; such evidence shall be submitted upon a form supplied by this office.

*b. Eye Conditions.*

The following cases should be referred to sight saving classes.

- (1) Children who cannot read more than 20/70 on a standard Snellen chart in the better eye, or who cannot read No. 2.00 at 20 C. M.
- (2) Myopes who have more than 6 diopters of myopia and under 10 years of age.
- (3) Children who have 3 diopters of myopia which are progressive.
- (4) Hyperopes who have symptoms of asthenopia and whose vision in their best eye falls below 20/70.
- (5) Children who have an astigmatism of more than 3.5 diopters and whose vision cannot be brought up to more than 20/70, in the better eye.
- (6) Children with corneal opacities whose vision is 20/50 or less in better eye.
- (7) Cases of inactive keratitis where vision is 20/50 or less in better eye.
- (8) Children having congenital cataracts, secondary cataracts, congenital malformation, or fundus lesions where no acute condition is present, with vision of 20/50 or less in the better eye.

NOTE 1. Any child who, in the oculist's opinion would benefit by sight saving training will be accepted subject to the suggestions of the oculist for treatment or training.

NOTE 2. It is assumed that these conditions exist after the proper refractions have been made.

*c. Mentality.*

Children shall be admitted on the basis of a mental test approved by the State Department of Education.

*d. Co-Educational Plan.*

Children in sight saving classes are to do all the oral work possible in the grade rooms with children of normal sight. The amount of work to be done by such pupils in the regular class room is to be decided by the supervisor after consultation with sight saving class teacher and oculist.

## **II. Sight Saving Class Room**

*a. Room.*

Special class rooms for sight saving classes shall be of average size and be approved by a representative of the State Department of Education.

*b. Blackboard.*

An adequate amount of blackboard space, not less than that provided in a regular class room, must be provided, such blackboards to be of slate and in good condition. Blackboard trays should be placed about twenty-six inches from the floor.

*c. Decorations.*

Rooms should be decorated with some coating producing a dull finish. The color should be a neutral tint, such as buff or French gray with a dull white or cream



ceiling. Walls and ceilings must be kept in good condition to be able to meet the approval of the State Department of Education.

*d. Window Space.*

In class rooms for partially sighted children, window sills shall not be more than forty inches from the floor and the window glass area shall equal not less than one-fifth of the floor space. Unilateral lighting with the light at the left of the pupil is preferable.

*e. Orientation.*

The most desirable direction of the sources of light are in order of preference — northeast, north or east, north and east, northwest, north and west. *A south exposure should be avoided.* Walls containing windows shall in all cases be adjacent.

*f. Window Shades.*

The window shades for each window should be provided. These should be placed in the middle so that shades may be raised and lowered from the middle. Shades should be of a neutral colored material which is sufficiently translucent to transmit a considerable percentage of light while at the same time diffusing it.

*g. Surface Finish.*

Walls, wood work, desk tops, blackboard and all paper should be finished with a dull mat surface to prevent glare.

*h. Artificial Light.*

Rooms shall be equipped with scientifically planned electric lighting systems for use on cloudy days. Before installation of such lighting systems the supervisor of the sight saving classes should be consulted.

### III. Size of Classes

Under no condition shall one teacher be assigned more than sixteen pupils. In case there are four or more grades enrolled no teacher shall be assigned more than twelve pupils without the consent of the supervisor. In no school district having more than one sight saving class shall more than five grades be assigned to one teacher.

### IV. Administration

#### *a. Supervision.*

School districts establishing sight saving classes shall employ expert supervision under conditions and subject to reimbursement on approval of the director of education.

Section 7761 General Code. "The director of education shall select some competent person or persons to inspect all classes established under Section 7755 General Code, at least once a year, and to report concerning the instruction in such classes, the conditions under which such persons are boarded \* \* \*."

#### *b. Assignment of Teachers.*

Qualifications of teachers of sight saving classes appointed by local boards of education and the conditions and terms under which they are employed are subject to the approval of the director of education.

#### *c. Salaries of Teachers.*

Teachers of sight saving classes shall receive an annual compensation of not less than one hundred fifty dollars per year more than teachers of the same training and experience teaching in the same school district.

*d. Clerical Service.*

Reimbursement shall be made for such clerical service as is necessary in the office of the supervisors of sight saving classes subject to the approval of the state director of special classes.

*e. New Classes.*

No new rooms for sight saving classes shall be opened without the written approval of the director of education, if such classes are to be subsidized by the state.

## **V. Equipment and Supplies**

a. Items of ten dollars or more for major equipment and supplies shall be approved by the state director of special classes before purchase is made.

b. Capital equipment purchased with state reimbursement shall be held as the property of the state.

c. A list of equipment and supplies necessary for a sight saving class may be had on application to the state director of special classes. This list should be determined by the supervisor and the state director of special classes.

## **VI. Special Appliances and Current Operating Cost**

Section 7757 General Code. \* \* \* "The director of education shall be final authority in deciding all questions relative to what constitutes special appliances and current operating cost under the terms of this section." For the guidance of boards of education this office has prepared the following definition of "Special appliances" and of "Current Operating Cost".

a. *Special Appliances.*

Typewriters.

Clear type books.

Educational models and specimens.

Charts.

Special maps.

Special globes.

Desks (when a design not in common use in the city public school system is purchased for such classes).

Musical instruments (when used for instrumental musical instruction).

Special electric lighting equipment for sight saving classes. (The cost of such electric lighting equipment may not be charged against such a department when such expense is incurred in the fitting up of a room to take the place of another room in the school system already furnished with such special electric equipment.)

Special cupboards.

Special culinary equipment necessary to the proper conduct of sight saving classes.

b. *Current Operating Cost.*

1. Salaries—Compensation of special teachers.

Student readers.

Special supervisors.

Necessary clerical help in supervisor's office.

Compensation of special and attending oculists.

2. Transportation—Carfare of pupils, guides and itinerant teachers.

Compensation of guides.

Traveling expenses of special supervisors on school business.

3. Educational supplies.
4. School feeding—Cost of school feeding, including cost of materials used, and compensation of persons preparing and serving such materials.
5. Research—Cost of investigation into broader opportunities for future employment of blind and sight saving pupils and into better methods for their instruction.

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NOTE: If any information is desired relative to classes for totally blind it may be obtained at this department.

# DIRECTORY — SCHOOL YEAR 1926-27

<i>City</i>	<i>Building</i>	<i>Teacher</i>	<i>Supervisor</i>
Akron	Bowen	Rose Hoskins	Olive Peck
Alliance	Liberty	Osie Stahl	Olive Peck
Ashtabula	Division St.	Lillie Newman	Olive Peck
Barberton	Lincoln	Donna Shorder	Olive Peck
Campbell	Penhale	Fay Wilcox	Olive Peck
Canton	Wells	May Wood Briner	Olive Peck
Cincinnati	Bloom Jr. High	Ada Cowdry	Estella Lawes
		Marie Riley	Estella Lawes
	Columbian	Edith Fisher	Estella Lawes
	Dyer	Laura B. Cunningham	Estella Lawes
	Mann	Ella Hodges	Estella Lawes
	Sands	Dorothy Brewer	Estella Lawes
Cleveland	Addison	Jennie Strom	Helen J. Coffin
	Almira	Effe C. Eger	Helen J. Coffin
	Boulevard	Iva M. Reed	Helen J. Coffin
		Florence Dildine	Helen J. Coffin
	Denison	Josephine Schooley	Helen J. Coffin
	Gilbert	Evelyn F. Hall	Helen J. Coffin
		Lois E. Miller	Helen J. Coffin
	Gladstone	Mrs. Eleanor C. Cudmore	Helen J. Coffin
		Adda Baker	Helen J. Coffin
	Harmon	Mrs. Florence Smith	Helen J. Coffin
	John Burroughs	Martha Laing	Helen J. Coffin
		Elizabeth D. Caldwell	Helen J. Coffin

Kennard .....	Hazel O. Black.....	Helen J. Coffin
Memorial .....	Mary A. Keenan.....	Helen J. Coffin
Miles Standish .....	Grace Henry .....	Helen J. Coffin
	Shirley Peck .....	Helen J. Coffin
Rawlings .....	Margaret McKenzie .....	Helen J. Coffin
Thomas Jefferson .....	Margaret Betz .....	Helen J. Coffin
Waring .....	Anne Kessner .....	Helen J. Coffin
Washington Irving .....	Jenny Hansen .....	Helen J. Coffin
Taylor .....	Ruth Nickard .....	Olive Peck
Hubbard Avenue .....	Myrtle McPeak .....	Alice Burdge
E. Main Street .....	Della Griffith .....	Alice Burdge
Irving .....	Lois Gordon .....	Alice Burdge
Patterson .....	Anna Goehring .....	Alice Burdge
Monroe .....	Mildred Wittman .....	Alice Burdge
Faurot .....	Irene Stager .....	Alice Burdge
Lincoln .....	Ruby Haines .....	Olive Peck
Bushnell .....	Mary Hughes .....	Olive Peck
North .....	Ruth Thunn .....	Alice Burdge
Benedict .....	Velma Tompkins .....	Olive Peck
Grade .....	Anna Hetrick .....	Olive Peck
Garfield .....	Bessie Allison .....	Estella Lawes
Barger .....	Adele Young .....	Olive Peck
Bushnell .....	Muriel Trimmer .....	Alice Burdge
La Grange .....	Besse Miller .....	Olive Peck
Lincoln .....	Esther Haag .....	Olive Peck
Navarre .....	Genevieve Givens .....	Olive Peck
Navarre .....	Mae Meeker .....	Olive Peck
Roosevelt .....	Beatrice Kennedy .....	Olive Peck
Cleveland Heights.....		
Columbus .....		
Dayton .....		
Hamilton .....		
Lima .....		
Lorain .....		
Mansfield .....		
Middletown .....		
Norwalk .....		
Oak Harbor .....		
Portsmouth .....		
Sandusky .....		
Springfield .....		
Toledo .....		
Warren .....		

<i>City</i>	<i>Building</i>	<i>Teacher</i>	<i>Supervisor</i>
Youngstown .....	Adams .....	Gertrude Purdy .....	Olive Peck
	Monroe .....	Rachael Thomas .....	Olive Peck
	Princeton .....	Florence Gibson.....	Olive Peck

#### ADDRESSES OF SUPERVISORS

Miss Alice Burdge — Sands School — Cincinnati.  
Miss Helen Coffin — Board of Education — Cleveland.  
Miss Estella Lawes — Sands School — Cincinnati.  
Miss Olive Peck — Board of Education — Cleveland.

#### PSYCHOLOGIST AND RESEARCH AGENT

Miss Edith Taylor — Board of Education — Cleveland.







DAISY HILL SIGHT-SAVING SCHOOL, BRADFORD, ENGLAND

A BRIEF SURVEY OF  
MYOPE CLASSES IN ENGLAND  
AND SCOTLAND

SEPTEMBER-OCTOBER, 1926

*Published by*

THE NATIONAL COMMITTEE FOR THE PREVENTION  
OF BLINDNESS, INC.

370 SEVENTH AVENUE, NEW YORK, N. Y.

## Foreword

England is the Mecca to which every supervisor and teacher of sight-saving classes in America turn with longing eyes, hoping that an opportunity may offer to visit the country in which this type of specialized education originated, to note its development, and to initiate that international spirit of comradeship that must necessarily exist between two groups on different sides of the Atlantic speaking the same language and attempting to solve the same problems.

The National Committee for the Prevention of Blindness is vitally interested in the development of this type of specialized education. It prepared and published the first handbook on the subject based on a careful study of existing conditions in America. It has recently published a manual on methods of teaching sight-saving classes and has in press a manual on their organization and administration.

In the summer of 1926, the Committee decided to send a representative to make a brief survey of the English and Scottish classes. Mrs. Winifred Hathaway, the Associate Director, was selected because of her wide contact with all types of these classes in America and because of her experience for several years in participating in training teachers in the work and those desiring to take it up. Miss Olive S. Peck, supervisor of sight-saving classes in northern Ohio and co-author of one of the latest books on this subject, was spending the summer in Europe; she co-operated with the Committee by devoting two weeks to making the study of the London classes in company with Mrs. Hathaway so that each might check up the impressions of the other. Mrs. Hathaway remained for six weeks longer, visiting schools and classes in other parts of Britain.

It was impossible for these representatives, much as they desired to do so, to see all the classes in both countries, hence typical groups were selected covering, in England, eight London centers in the elementary schools with a total of 17 classes, and two secondary schools, the Daisy Hill School in Bradford, the White Oak School at Swanley for children with communicable eye diseases, the De-

partment of Myope Classes in the Royal Institute for the Blind in Birmingham, and the small private Myope School at Piltdown. The classes selected in Scotland were those in Edinburgh and Glasgow. In addition a number of regular schools were visited for the purpose of getting acquainted with the educational system and of comparing conditions with those of the myope schools.

In addition to actual visits to schools and classes, conferences were held with many of the leading ophthalmologists in England and Scotland, with head mistresses and head masters of myope schools and classes and of the regular school departments in which these classes are located, with government and local health officers, and with lighting experts. Many profitable hours were spent in eye and general clinics.

A brief report of this nature can deal only with impressions. Many of the details mentioned are not applicable to all the centers visited. Different types of schools have been selected for consideration.

No such report could be complete without acknowledgment of the unfailing co-operation and the generous hospitality accorded the representatives of the Committee. No trouble seemed too great if it gave opportunity for a better understanding of conditions. There was no stinting of time, of energy or of effort, and this is the more noteworthy in view of the fact that visitors to these classes are by no means uncommon. They come from all parts of the world to learn organization, administration and methods of teaching.

## The Myope Schools of England and Scotland

### System of Elementary Education in Great Britain

To understand the functioning of myope classes in Great Britain, it is necessary to be somewhat familiar with the general system of elementary and secondary education. In England all free schools are under the Government Ministry of Education. The Scottish schools have a separate ministry. School attendance is compulsory between the ages of five and fourteen. It is voluntary between the ages of three and five and after fourteen, except in instances of

mentally or physically handicapped children where the school attendance may be compulsory up to sixteen.

The elementary school is divided into three departments, infant, junior and senior. Children from three to five or six attend the infant department, the junior and senior departments include seven standards, the first three or four of these comprising the junior and the remainder the senior departments. Educational facilities following the elementary schools are divided into secondary and central schools. There is a third group known as continuation schools. Following the secondary schools are the teacher training institutes, colleges and universities.

In the infant department boys and girls attend the same schools and classes. In all other departments there is separate educational training. When children have completed the sixth standard, the average pupil attaining this at the age of eleven, examinations are held. Those highest on the list (in London the first 10,000 children) are given scholarships to attend the secondary schools; the next group (in London the second 10,000) may attend the central school; the others remain in the elementary school until they are fourteen. In the secondary schools the students remain until they are about eighteen when they are ready for further training. In the central schools they remain until they are approximately sixteen. Pupils not receiving scholarships for the secondary schools, but passing the examinations may attend them on payment of the required rates. Pupils in the central schools often accept the free education there and enter the advanced years of the secondary school by payment of rates.

The free schools in England are directly under the jurisdiction of the local County Council, which takes care of all phases of public work, health, education, sewerage, water supply, streets, railways, etc. The free schools are known as the County Council Schools.

### Establishment of First Myope Class

As far back as 1885 medical examiners in England urged the necessity of some form of specialized education for children suffering from high myopia. In 1908, chiefly through the efforts of Dr.



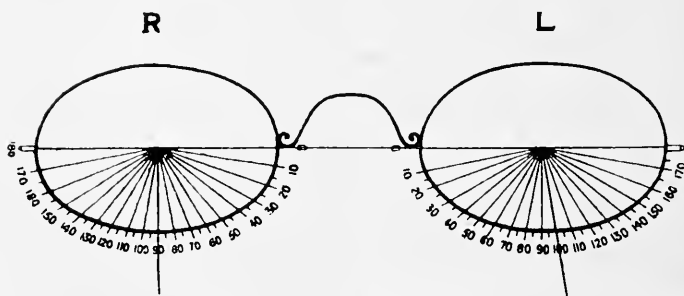
THE EDUCATION AUTHORITY FOR EDINBURGH

Name\_\_\_ Emily Allerton

Address. 20 Gibson Terrace

School\_\_\_ St. Peters

Date\_\_\_ 22-9-26



DISTANCE READING	R.		L.	
	SPH.	CYL.	SPH.	CYL.
	+ 6.0	+ 1.25	+ 6.0	+ 1.25

For all purposes.

Signature E. M. Lithgow



THE EDUCATION AUTHORITY FOR EDINBURGH.

**CERTIFICATE BY OCULIST.**

I hereby certify that Emily Allerton  
a pupil of St. Peters School, and child of  
Mary Allerton residing at  
20 Gibson Terrace is unable, owing to defective  
vision, to take full advantage of the education provided for  
her in said School.

E. M. Lithgow  
Date 22-9-26 Oculist.

---

**AGREEMENT BY PARENT.**

I hereby request The Education Authority for Edinburgh  
to supply one pair of spectacles for my child  
Emily Allerton and I promise to pay for the said  
Spectacles on delivery, or by instalments of not less than One  
Shilling per week.

Signature of Parent or Guardian Mary Allerton  
Date 29-9-26

---

**RECEIPT.**

I hereby acknowledge having received from The Edu-  
cation Authority for Edinburgh One Pair of Spectacles for  
my child Emily Allerton

Signature of Parent or Guardian Mary Allerton  
Date 6-10-26

Is the Parent or Guardian in receipt of Parish Relief? No



James Kerr and Dr. N. Bishop Harman, the first class was established at Boundary Lane. Dr. Harman characterized it as "a step for helping lame dogs over stiles." It was known as the Myope School because at this time only myopic children were considered eligible. They still form a large majority of the children in these classes.

## Children Eligible to Myope Classes

The methods of finding children eligible for these classes are, in general, as follows: Every child in the elementary schools receives four thorough medical examinations during his school life—at entrance, at the age of eight, again at 11 or 12, and one term before he leaves school. This last examination is so arranged that should any difficulty be found, efforts may be made to correct it before the child goes from elementary school care. A very efficient organization called "The Care Committee," formed of paid executives and voluntary workers, follows up cases showing difficulties at the time of any one of these examinations and makes every effort to see that they are taken care of. Every child found to have physical defects is re-examined at the end of six months.

In the interim between any two of these examinations, physical inspection is made each year by the school nurses who report health defects to the school physician. When children are found to be suffering from difficulties parents are notified. In the case of eye trouble, if parents are not able to provide adequate ocular examination and care, the children may be sent to the school eye clinics.

Glasses, if necessary, are provided, but in practically all cases parents are required to pay at least part of the cost. The prescriptions are not given to the parents. Arrangements are made for furnishing the glasses; a copy of the prescription is kept for checking up the lenses and for future references. In cases where glasses or treatment cannot bring the sight to standard requirements the children are sent to the oculist who is the final authority on the best course of action to pursue. Parents are urged to be present at the medical examinations and many of them accompany the children.

## Ophthalmological Care and Supervision

In the myope centers in Britain expert ophthalmological care is provided. The oculists are skilled in their work and co-operate to the fullest extent in furnishing to the teacher records that will be of the greatest value to her in determining the work to be undertaken by each pupil. The teacher is urged to study these so as to appreciate the difficulties of vision of each child. These medical record cards are strictly confidential, to be seen only by the teacher, the doctor and authorized officers of the educational officers' department. The oculist in charge visits the classes at stated intervals and confers with the head mistress or master and the teacher in regard to the progress of each pupil. Re-examinations of the eyes are given at frequent intervals, in some instances as often as every three months, particularly in the cases of high myopia. Nor is the general physical condition of the child neglected. He is under the supervision of the school physician, and the teacher may at any time send him for examination or advice.

## Red Button Children

In some schools children suffering from progressive myopia wear red buttons to show that they are "special care" cases. This is a warning for the children themselves, and for other children and teachers to give special care particularly in physical education and in games.

## Co-operation of the Council of British Ophthalmologists

The function of the Council of British Ophthalmologists is "to take cognizance of and act in all matters of ophthalmic interest arising in connection with industries and public services and to initiate or advise concerning movements which have for their object the welfare of the eyesight of the community."\*

This Council has co-operated with the educational authorities by making a number of studies and by issuing reports that will aid in

\* The Council of British Ophthalmologists, Its Constitution, Aims and Work.

conserving the sight of students. Among these the study and report on the standards of vision for candidates of scholarships and teacher-ships under local educational authority and the study and report on the methods adopted in various parts of the British Isles for the education of children suffering from defective vision due to myopia and other causes, have been particularly valuable in educational work in Britain especially to those interested in the myope classes.

### Educational Supervision

In Britain there are no government or local supervisors devoting themselves wholly to the work of the myope classes. With the exception of London, the number of classes in any one city is too small to justify the expense of a supervisor. The classes are under the jurisdiction of the supervisor of all specialized education.

### Financial Support of the Classes

In England the government pays 50 per cent of the cost of these special classes and the local community 50 per cent. In Scotland the ratio is relatively 46 to 54.

### Cost of Special Education in Comparison with Education in Regular Grades

The cost of educating a child in the regular elementary school according to the figures given by the London County Council for the year 1925-6, is £15/18/7 (\$77); for the totally blind child £60 (\$291); for the myopic child £32 (\$155); for the partially deaf child £42 (\$204). This covers a school year, officially forty-four weeks in length, but in reality the time is about forty-two weeks, as there are five weeks' holiday in the summer, two weeks at Christmas, two at Easter, and half a week at mid-term. In London there are 13,000 children in special classes; more than one-half of these are in classes for the mentally deficient, one-third in classes for physically defective children (crippled, cardiac and tuberculous), one-twelfth in schools or classes for the blind or for myopes, and one-sixteenth in classes for the deaf or hard-of-hearing. Blind

children and myopic children are not differentiated in the classification because under the English education act they both receive their education as blind children. In Scotland they are classified under the Scottish Education Act as physically defective children.

### Salary Schedule

The maximum salary of a woman teacher in the elementary schools is £345, approximately \$1,675. Teachers of myope classes in England usually receive £9 (\$44) a year extra. In Scotland only head mistresses of these classes receive extra salary—£10 (\$48.50) a year for each class under their supervision. In some instances, however, teachers of these classes receive the annual increment in salary one year in advance of the regular teachers, thus reaching their maximum salary one year sooner than they otherwise would.

### Training of Teachers

Teacher training institutes do not offer courses of specialized training for the preparation of teachers of myope classes. The general procedure is that a new teacher is placed in a school with a head mistress of experience, and as much training as possible is given. In cities where classes are to be established, a teacher experienced in regular school work is usually sent to visit classes where there are teachers experienced in this special work. In London Dr. Harman gives courses in eye work and occasionally lectures are given on the pedagogical side of the work.

### Types of Schools and Classes for Children Suffering with Serious Eye Defects

There are in England seven types of myope schools or classes:

1. The co-operative or co-ordinating type, in which the children remain in the special room for work requiring close use of the eyes and go into the regular school standard for some or all oral work.
2. The segregated type of class, in which the children do all their school work in the special classroom.

3. Separate myope schools forming part of the school system.
4. Special myope departments in schools for the blind.
5. Residential schools for children with communicable eye diseases.
6. One small private myope school.
7. A special arrangement for the education of myopes in the secondary schools.

In Scotland, the first two types are in operation.

## Rural Children Suffering from Myopia and Other Eye Difficulties

A survey\* made by the Council of British Ophthalmologists showed that in the country districts where there are not sufficient children to form a myope class, the following is found: In one area children are sent to special educational centers where there are myope classes; in two areas teachers are trained in the principles involved in the education of myopes and special desks with blackboards are provided; in one area special instruction is given to the head teachers; in one area all children with high myopia are restricted in their work, the most seriously affected cases being excluded from school for varying periods, the teachers being advised about the kind of work which is suitable for them on their return.

## Number of Classes

When the present study was made there were 79 classes in the elementary schools in England representing 13 cities, and arrangements were made for the education of a limited number of myopic children in two secondary schools. In Scotland the myope classes are not listed separately, hence no true estimate of the number could be obtained. The information available showed seven classes representing four cities. In Wales no classes had been established but it was expected that one would shortly be opened in Swansea.

\* Report on Methods Adopted in Various Parts of the British Isles for the Education of Children Suffering from Defective Vision Due to Myopia and Other Causes, page 2.

The above survey\* of the Council of British Ophthalmologists in 76 areas in England, Scotland and Wales, exclusive of London, indicated that all children in these areas are examined with regard to visual acuity; that in nine areas no treatment is provided, but in all others spectacles are ordered by an ophthalmic surgeon when required; that 16 myope schools or classes exist in nine areas, of which seven are located in institutions for the blind.

### Size of Classes

The maximum number of children for a myope class in England is thirty; in the class of the head mistress twenty-five, because of her extra work. The general opinion is that this is far too large a number for accomplishing the desired results. The Council of British Ophthalmologists recommends that no more than 20 shall be in one class.†

In Scotland the maximum is 20; this however means 20 in attendance; there may be one or two more on register.

### Proportion of Time Spent in Regular and Special Schools

In myope schools using the co-ordinating system, children are expected to spend a minimum of six hours per week in the regular school. The younger the child the more time he spends outside of the special classes. The explanation given for this is that as the pupil grows older more preparation is necessary for his work and, as there are no books from which he can get information for himself, the teacher must give him a greater amount of help.

### Transportation

Transportation is furnished to children whose parents cannot afford the expense and, in cases where it is necessary, guides are

\* Report on Methods Adopted in Various Parts of the British Isles for the Education of Children Suffering from Defective Vision Due to Myopia and Other Causes, page 2.

† Report of the Methods Adopted in Various Parts of the British Isles for the Education of Children Suffering from Defective Vision Due to Myopia and Other Causes, page 3.



provided. Other children are not used for this purpose. Women, usually widows who need to earn the money, are employed and paid by the hour. Routes are so arranged that one guide calls for several children, accompanies them to the school and returns with them in the afternoon.

## Luncheons

Very careful arrangements are made for the serving of hot lunches to children in myope classes. In some instances the food is cooked in a central kitchen and delivered to the school in heat conserving containers; in other places the food is cooked in the school building; in still others, the children go to the nearest school having facilities for serving a hot lunch.

The cost of these lunches is usually taken care of by the educational authorities; in cases where the parents can pay, they are expected to do so. As a rule, teachers do not remain with the children during the luncheon period. In some instances, there is an attendant who serves the lunch and remains with the children; in others, an assistant may be responsible for taking them to a school where lunches are provided. The luncheon period varies from an hour and a half in the winter session to two hours for the rest of the year. There is a tendency in some localities to shorten the lunch period and dismiss the children earlier in the afternoon, since when there is a luncheon period of two hours, school sessions may be held until four in the afternoon.

## The Classroom

### Size

The sizes of classrooms vary not only in different parts of the country, but in the schools of any one place. Many of the London classrooms are exceedingly small, giving little room for the children to move about. In fact, the conditions are sometimes so crowded that there is not space for the children to change the position of their seats so as to get the best light or to pass to other parts of the room for different types of work without seriously inconveniencing other children.

## Lighting

In nearly all classrooms the natural lighting is given a fair amount of consideration. Some rooms, however, fail to meet the essentials of good natural lighting. In the majority of cases the color and conditions of walls and ceiling were such as to aid in lighting. Artificial lighting has received practically no attention, probably because all close eye work is prohibited when the natural light fails. The majority of the rooms are lighted by very inadequate gas fixtures. In the very few instances where electric light is used, it is, in general, quite as inadequate as the gas lighting and is often productive of glare from improperly shaded lamps or lamps without shades. Window shades are in general of a buff translucent material hung from the top of the window.

## Seats and Deskboards

The same type of desk is used in nearly all the classes. In one position it makes a flat table for general work. This table is so hinged that it can be raised to an angle approximating a right angle. The under side is blackened by a prepared type of paint and is thus formed into a seat blackboard. In many cases chairs are used that are not adjustable and the children seem to find it very difficult indeed to attain good posture, especially when they were writing on the lower part of the deskboard.

In some of the Glasgow classes a different type of desk is used with a movable blackboard fitted to the desk on the under side. This can be pushed up or down as desired, and is held in place by a rod. This makes for much better posture as the children do not have to assume cramped positions to write on the lower part. Some of these desks in both countries are fitted with a metal bar some twelve or fourteen inches from the board, held in place by side pieces of metal for the purpose of keeping the children at this distance from the board to prevent them from using their eyes to write at too close a distance, thus complying with the slogan, "Everything at arm's length." These rods, however, do not seem to fulfill their original purpose, as many of the children use them to lean upon. In the Edinburgh classes the individual board is not attached to the

desk. It is a blackened board about 22 x 30 inches fitting into a slot in the desk. It must be held in place by the pupil.

In some of the Scottish classes a deskboard is used that is like a suspended drum with octagonal surface. It is hung in such a manner as to cause no difficulty in rotating the surfaces. This tends to make it unsteady and the child has to hold it in place. The second disadvantage is the noise which is quite nerve racking when several children are using the boards at the same time. The advantage of this board lies in the fact that the octagonal surfaces can always be brought on the level with the child's eyes.

### Large Blackboards

The children do a great deal of their work at the large boards of which there are very interesting variations. There is the usual wall board of ordinary type: a board in the form of a roller towel, 6 ft. x 3 ft., has two great advantages—a double amount of space, and the possibility of writing on a part of the board near a level with the eyes. This obviates straining to reach the top of the board and bending over to reach the lower part. In the London classes these boards are manipulated by hand and it is not easy to keep them from stretching at the sides because of the constant pulling into position. When they are not kept very taut it is difficult to write on them. In the Scottish classes this difficulty is obviated by turning the board with a crank. They are expensive, but they last a very long time.

In the Bradford classes wall boards are placed in such a way that they are four and a half inches from the wall at the top and slope to one-half inch from the wall at the bottom. This prevents glare; such a board does not "blank" for any child in the room at any part of the day.

The most interesting board is one found in the Glasgow classes. It was devised by the head mistress and the medical supervisor to combine the advantages of both the wall and the roller types of board. It is designed on the principle of the two sashes of a window. Each sash has handles on the lower edge so that it may be easily lowered or raised. The children may thus place the board at any height desired; there is the added advantage that work which is to

be kept may be written on the upper sash and the sashes then doubled. For example, a teacher may wish to put some test questions on the board to be in readiness when desired. She writes them on the upper sash and draws this down so that it is completely hidden by the lower.

In all cases white crayon is used.

### **Paper, Pens, Pencils**

Paper is very sparingly used. It is clipped to the deskboard and the work is done with water-proof black crayon. In some cases black washable paper is used with white crayon. Pens and pencils have no place in the British myope classes.

## **Writing**

Although there is no set rule in regard to writing in the British myope classes, much manuscript writing is seen; many of the head mistresses and teachers consider it easier to read and find it especially helpful with the younger children. In general, the type of writing is used to which the children have been accustomed if they enter these classes after the first year.

Unseen writing, much discussed in connection with the British classes, has not proved to be practical. There seems to be actual physical and mental strain in trying to overcome the temptation to look at the writing. When this is absolutely overcome, which appears possible in very few instances, the writing is very uneven in lettering and in spacing and crooked in lines. The process is a slow, laborious one and all the teachers whose classes were visited had discarded it.

In only one place were lines used on blackboards; these were in white.

### **Typewriting**

Up to the year of 1926 no typewriting was taken up in any of the myope classes, the argument against its use being that it might encourage pupils to accept clerical positions. This attitude is changing, some of the leaders of the movement being convinced that



A blackboard invented by the head mistress of a Glasgow myope school and the Glasgow Medical Director. It operates on the principle of a window



proper vocational guidance and the study of eye hygiene in these classes will greatly lessen this possibility. They are tending toward the conclusion that the typewriter may become an actual factor in saving sight since, if the touch system is used, the child may, without using his eyes at all, prepare much of his work that is to be handed to the teacher.

## Books

Perhaps the most noteworthy fact observed in the British Myope classes is the absence of books. Reading from books of any kind is absolutely discouraged. Reading is chiefly from the desk and large blackboards and from prepared charts. The nearest approximation to books is the large chart, 22"x 30", on which the printing is done by means of a rubber stamp outfit. This outfit is found in all the classes. It consists of a large easel to which white paper 20"x 30" is attached as desired by clips; a movable rod which can be placed across the paper so that the lines of printing may be kept straight; and rubber type. The sizes of this type are two inches (measured from the capital letters) for the younger children and for demonstration work, and one inch (likewise measured) for the older children. The printing may be done by the teacher, but is usually prepared by the pupils. Unless it is exceedingly well done, the impression is likely to be uneven, some of the letters or parts of letters being much darker or lighter than others. The spacing between lines is taken care of by the rod, but the spacing between letters and words is very difficult to make exact. It usually happens that the few pupils in the class who are able to do the work well do it all. It is a slow, laborious process and, since the space between lines is double the height of the letters, only small amounts of material can be presented on a page. These charts are hung at a convenient height and the children are grouped around them standing in the position from which they are best able to see the chart. Of the children observed, no one stood nearer to the chart than six feet while some children stood as far as fifteen feet away.

In the hope that some form of book might be printed, a very careful test was made from the ophthalmological and pedagogic standpoints to determine the size and type of letters and the spacing.

The decision based on this test was as follows: Two inch letters for young children and for demonstration work in clear type with the fewest possible strokes, wide spacing between letters and words, spacing between lines to be double the height of the letters; heavy white paper and black ink, size of book 22"x 30", the same rules holding for the older children with type of one inch. Estimates for printing such books proved them prohibitive in price under present conditions when financial economy is the watchword in England. Hence no type of book is available.

## Geography

Geography lessons are supplemented by well-made maps often constructed by the pupil. Some of these are made of a combination of salt and soda, others of plasticene, etc. A very interesting phase of geography is the school journey. This may be merely a journey of part of a day or it may extend over a period of several days. In one or two instances journeys of two weeks are recorded. For these school journeys a section of the country is selected typifying certain geographical features. The lessons of the whole term may be centered around this section. Geographical and historical studies, trade subjects, and nature work are correlated with the lessons in arithmetic, spelling, etc. The journeys are made on the basis of subjects for composition and English.

The expense of such journeys is met in various ways. In London, the London County Council pays part, the parents part, and the rest is raised by school activities.

## Hygiene

Lessons in hygiene are stressed in the myope classes, particularly eye hygiene, for it is believed that an appreciation of eye conditions by the pupils will lessen the possibility of undertaking in later life employments hazardous to their sight.

## Music

Great attention is paid to vocal music. The children are interested in the English and Scotch folk song, and take great pleasure in



singing. In only one class was instruction in instrumental music being given; that to two children of exceptional musical ability. The teacher, herself a musician, gave part of the two hour lunch period to instruct these children. Considerable attention is paid in many of the centers to eurythmics.

## Declamation

In the British schools great emphasis is placed on declamation or recitation. The children have a very great deal of memory work and learn to recite with expression and apparent understanding long poems as well as prose selections. Much of the material printed on the reading charts are selections for memory work.

The children dramatize their stories and poems, this form of activity being kept for dark days when eye work is prohibited.

## Hand Work

Various types of hand work are done in different localities. Those chiefly used are mat making, bent iron work, rug weaving, clay modelling, plasticene work, paper folding, knitting, bead work with large beads, hooked rug work, basketry, book covers, pastel drawing, shop wood work, cookery and laundry work.

## Gardening

School gardens are maintained usually in the school yards. The children are given lessons in gardening during the winter and in the spring and summer they put this teaching into practice. Care is taken that the myopic children do not bend over in this work or do heavy digging.

## Vocational Assistance

A pupil graduating from a myope elementary school or leaving for any reason at the age of fourteen is placed in charge of the "After Care Committee." This Committee is composed of a group of members of the regular Care Committee and representatives of the government employment bureaus. The members try to assist the children in finding occupations which will not be detrimental to

their sight and visit them at their work to see that the occupations are suitable. Some of the occupations in which these children have been found satisfactory are: Light carpentry work, gardening, milk routes, messenger service, nurse maid service, house maid service, artificial flower making, book pressing in bindery and assistant in florist shops.

### The London Myope Classes

Of the 79 classes in the elementary schools of England, 39 are in London, distributed among 21 centers—there are from one to four classes in each center.

The school population of London is approximately 625,000. There is accommodation for only 915 children in the myope schools; hence there is always a waiting list and naturally the children suffering from the more serious eye conditions are given preference.

In all instances the classes are practically a separate department of the school, often placed in a small detached building or in a part of the building separate from the other classes with the head mistress having control. Where there is but one class the teacher acts as teacher and head mistress. Where there are two classes or more the senior teacher in experience is the head mistress and has supervision of all the myope classes in her department in addition to her own teaching.

The plan of conducting these classes from their inception has been of the co-ordinating type. A recent report, however, suggests certain changes:

“We have had under consideration the question whether, in view of the increase of individual work in the elementary schools, any change should be made in the arrangements existing between these schools and the myopic schools.

“The chief reason for linking the myopic schools with the elementary schools in the past was that it was felt desirable, in order that the children should be encouraged in habits of self-reliance, that part of their training should be given in the ordinary elementary schools where they would mix with children with normal sight. We feel that this objective is still of importance, but it is much more difficult of attainment now than it was some years ago, because the individual methods which have been largely adopted in the element-



MYOPE SCHOOL, LONDON  
Session in hand work



ary schools in recent years involve the use of books printed from founts of ordinary type and references to dictionaries and atlases of the normal kind. The myopic child is at a disadvantage in a class doing such individual work and, indeed, is in danger of further damage to its already defective sight.

"Again, singing and drill are two particular subjects of the ordinary school curriculum in which it has been thought in the past that myopes could safely join; but much of the singing in the schools is learned from notations of music printed in ordinary type, while the modern drill lesson is daily becoming more unsuitable for the myopes to join in, physical exercises having so much increased in speed and agility. The dilemma of the elementary school teacher who has been trained in these methods is whether he shall endanger the myopic children by allowing them to take part on the one hand or, on the other, whether he shall slow down the exercises of the whole class for the sake of a few myopic children.

"In view of these considerations, we propose that an experiment should be made in four myopic schools for the teachers of the schools to be solely responsible for the instruction of the children, but we are strongly of opinion that there should be no complete severance of the myopic school from the elementary school even in these four cases. The myopic children will still be able to take some part in and acquire some benefit from the corporate life of the much larger elementary schools if they attend there for morning assembly (including prayers), for the general talks to the children which the head teachers give from time to time, and for ceremonies and celebrations such as that which takes place on Empire Day.

"We have consulted the Elementary Education Sub-Committee on the matter. It will be necessary to secure the approval of the Board of Education to our proposal.

"Further investigation is being made into the work of the myopic schools, and when it is completed we will report upon the work done by the four schools in question in contrast with what is done by the other schools which will remain linked with the elementary schools.

"As a part of the experiment, we are asking the Books and Apparatus Sub-Committee to supply pianos to the four schools on loan. We recommend:

"That, as an experiment, and subject to the approval of the Board of Education, the teachers of the Dempsey-street (Mile-end), Plassy-road (Lewisham, E.), the Ravenstone (Balham and Tooting), and Wickersley-road (Battersea, S.) myopic schools, be held solely responsible for the instruction of the myopic children in their respective schools."

These suggestions were presented to the Board of Education and agreed upon and were put into effect January, 1927.

Children needing this type of education in London are found in the manner previously observed. The school clinics in this city are not as a rule situated in the school building. Groups of private oculists hold the clinics and the London County Council pays a per capita amount for each child examined or treated. Children examined at these clinics who cannot be brought up to standard by glasses or treatment are sent to Dr. N. Bishop Harman, ophthalmic consultant of the London County Council, who is assisted by Dr. E. M. McVail.

The clinic is situated in the London County Council Building. There is a large pleasant waiting room and an equally large and commodious examination room. These special clinics are held every Tuesday morning. Each child in turn enters the examination room usually with one of his parents. Dr. Harman talks with both, thus getting acquainted. He examines the record sent by the previous examining physician. A visual acuity test is then given by the nurse in attendance. The Illiterate E Chart is used with but one letter on a line. This is arranged on a pivot so that it may be turned in all directions in case there is any doubt about the child's reaction. Dr. Harman's desk is just in front of a pair of dark curtains, back of which is a fairly deep recess fitted up as a dark room. He uses a swivel chair, and simply by turning this around and drawing the curtains behind it, he is in the dark room. A thorough examination is then made, usually under a mydriatic. Following the examination one of four courses of action is decided upon. The child may be returned to his regular school work; he may be recommended for "Easy Treatment"; for "Oral Teaching Only"; or he may be placed in a myope class.

The London County Council has prepared and printed the following directions\* for teachers in the regular schools having children under their care who are recommended for "easy" or "oral" treatment:

\* London County Council Bulletin No. 62.

### **Children Recommended for "Easy Treatment"**

"These children usually suffer from a defect of one eye only or they have defective vision in both eyes of a moderate degree. With reasonable care school work should not cause strain of the eye or entail the risk of exaggeration of their visual defect. These children should sit in the front row of the class, sit upright and not be allowed to stoop over any literary work allowed them. Girls must do no sewing, but may learn knitting, provided it be taught by touch and not by sight. Boys and girls should be prohibited the use of books with small print or writing of any sort other than a bold large-lettered hand. They should not join in exercises that involve the reading or writing of masses of numerals or geometrical figures. They may read or write in large type, preferably for periods not exceeding 20 minutes without a break. They should not be allowed to stoop over their work, and, if it be possible, the writing should be done free-arm fashion on a blackboard or millboard set up on the desk.

"So far as school arrangements allow they should attend all the object lessons, demonstrations and oral lessons that are given in the school.

"Drill, dancing, games of all kinds may be freely indulged in.

"Home lessons of any sort should be prohibited.

### **Children Recommended for "Oral Teaching Only"**

"These children suffer from some serious defect of vision such as gradually increasing short sight. When no place can be found for them in a special class they are admitted to the elementary school with a view to their gaining the educational advantage of school discipline and such general knowledge as can be given them in the oral lessons of the classes.

"The use of books, pens, paper, pencils and slates of any kind and for any purpose is to be prohibited, and the child should be reminded at intervals by the teacher in a friendly chat that the prohibition is for his or her own benefit and that they must do at home what they are trained to do at school.

"If the class arrangements permit they may be allowed to write or draw on the blackboard in large characters free-arm fashion.

"If a girl shows aptitude for handwork she may learn knitting by touch, but not by sight. Similarly a boy may do the larger kinds of carpentry, but he must not use the rule or draw measured plans.

"For the most part these children may drill and dance, but they should be warned against using gymnastic apparatus or dumb-bells,

for example, in connection with the Children's Happy Evenings Association. They should be cautious in the playground games."

The following three types of children are recommended for myope classes:\* true myopes, children with scarred vision, children whose eyes have not developed properly and who therefore see imperfectly.

Whatever may be the decision of the oculist, the parent is given a very careful explanation of the reason for making the decision and co-operation is sought. Parents on the whole seem quite willing to accept the opinion and to assist in carrying out the instructions given. To each parent having a child recommended for a myope class the following memorandum is given for reference:†

"Your child suffers from a considerable defect of the eyes, so that it is short-sighted. If the child were to continue school work with the ordinary children it would be liable to suffer from eyestrain, and would incur the risk of becoming even more short-sighted. Besides, the weakness of the sight seriously handicaps the child when it has to join in work arranged for the ordinary children.

"To meet the needs of children such as yours, classes have been formed in connection with the ordinary elementary schools, where those parts of the school work which would be harmful to children with delicate eyes may be taken under better and easier conditions. These classes are called myope classes. They are carried on either in a classroom of an ordinary school or closely connected with one. Teaching is arranged in this fashion—

"1. For all lessons that can be learned by listening to the teacher the children in the myope class go into the ordinary school.

"2. Lessons that need reading or writing are given in the myope class. Instead of using books, pens and paper, each child has a large blackboard on which it writes with chalk just as the teacher does.

"3. In the myope class a speciality is made of handicraft of various forms of carpentry, bent iron work, model making, printing from blocks, and drawing. The children enjoy the work immensely, and the instruction is most profitable.

\* Myope Classes—N. Bishop Harman, M.A., M.B. Cantab., F.R.C.S. Eng.

† London County Council memorandum containing advice to parents of short-sighted children who have been recommended for admission to a Myope Class.



"4. The children learn to dance and drill, and for these lessons most of them are able to join in with the ordinary children.

"At regular intervals the eyes of the children are examined by the Council's eye doctor, who is able to judge if the conditions are satisfactory and suggests alterations in the class work if necessary.

"These myope classes . . . have proved so successful that hospital eye doctors have asked for more of them. The classes have been copied in other cities of England, Scotland, and in America, where their success has been equally marked. Since these classes have been started, these delicate-eyed children have been able to get a good and useful training without injury to their eyes; and many who would otherwise have had to go to a school for the blind have not needed to do so.

"The number of places in these classes is limited and the demand for them is great. If a place can be found for your child you are particularly asked to take your share in carrying out the scheme for the protection of your child's eyes. Get the child interested in games and outdoor play. Do not let it read or write. Let it be done out of doors as much as possible."

Arrangements are made by Dr. Harman's office for the transfer of the child where this is recommended, notice being sent to the head master or head mistress of the school previously attended and to the new school. Further notice is sent to the parent stating when the child is to be transferred and where he is to report.

## Myope Classes in London Secondary Schools

Until the fall of 1926 there were no educational opportunities for myopic children beyond the elementary school. The arguments for this have been manifold, chief among them, perhaps, the fact that it seemed unwise to many of the ophthalmologists most closely connected with this work to encourage academic training beyond the rudiments of the elementary school. It was argued that secondary school training would lead to a love of books and to very close eye work that might, if followed, deprive the pupil of his sight.

"The system of teaching by means of myope classes may seem to limit education so far as high scholastic attainment is concerned, but it has been found undesirable to encourage these children to follow a higher education, with the prospect of a sedentary occupation thus incurring grave risks of serious break down later in life."\*

\*Report of the Council of British Ophthalmologists, 1926.

Each year, however, head mistresses and teachers in the work were baffled by the problem of knowing what to do with the child of exceedingly good mentality who, if not admitted to a secondary school where at least he would be under ocular supervision, would read and study under conditions which would be likely to bring about more serious results, not only to the eyes but to the general health. Some of these head mistresses and teachers, although already overburdened with work, added post-graduate courses to afford these students the opportunity for further advancement. Each year made the problem more difficult of solution and a new or at least a different method of solution had to be attempted.

After much consideration the London County Council made the following arrangements:

“A maintenance grant may be given to enable a partially blind child to attend suitable day classes whilst learning a trade or training for a definite vocation, provided that the parent takes full responsibility for the course of training and the risks entailed thereby.

“Special scholarships may be awarded, without written examination, to pupils from myope schools who have shown evidence of exceptional ability and who are more suited to secondary than to trade training, provided that the parents shall accept full responsibility for the risks involved in training.”

It was decided to carry out an experiment in two secondary schools in different sections of London. In the schools chosen, the head mistresses are very sympathetic toward the work and willing to assist in every way to make the venture a success. They gave a great deal of time to studying the work in elementary schools and to planning a program of procedure.

Since this undertaking was more or less in the nature of an experiment, certain important points were agreed upon:

- (1) Only children of the scholarship type of mentality would be accepted.
- (2) Only children with 8 diopters or less of myopia could qualify.
- (3) But 10 children could be accepted in each of the two schools selected.

The validity of reasoning in these provisions will readily be perceived. The third consideration will be the more readily under-

stood if it is remembered that these secondary schools accommodate only about 300 students, hence more than 10 special pupils with eye handicaps entering the first year would overload the classes.

It was decided that the myopic children should enter just as do other students of the first year; that they should be assigned to classes in the same manner with the exception that the ophthalmologist in charge would be the authority, in consultation with the head mistress, on the subjects to be permitted and on the amount of reading each child should be allowed to do. Conferences were held with all the teachers having such students in their classes and a successful teacher from one of the elementary myope schools was lent for a period of six months to help to put the program into execution.

It was decided to permit these students to read from books authorized by the ophthalmologist for three half-hour periods a day with at least an hour between any two readings.

In one of these secondary schools, the Howard system of education is in force, in which there is considerable leeway in the selection of subjects, the parents, the child, the teacher and the head mistress co-operating to select the subjects best fitted to the child's advancement and desire. For the myopic children, the use of a microscope is for the present prohibited. They are, however, permitted to take courses in biology and botany, since in these subjects two students work together, and the selection of a good partner for a myopic child is expected to be very helpful.

The myopic students prepare their work in very large characters such as they used in the elementary school and a small amount of drawing may be permitted also in large characters. Special apparatus such as large compasses, rulers, etc., are being supplied as rapidly as possible.

Study hours are arranged during each day. The special teacher lent by the elementary school is in charge and will give any assistance necessary for getting the best results. Typewriting is being taken up as one of the major subjects and will gradually be made a means of written expression.

It must be borne in mind that children enter the secondary schools

at about the age of eleven so that the amount of preparation work is not very great nor is there anything like so much outside reading as in the more advanced classes.

Special medical attention is being given. The children are to be examined several times during the term and reports made on general physical as well as eye conditions. If the results are favorable, the advantages of this specialized form of education will doubtless be offered in other secondary schools.

The experiment is being watched with great interest in all other parts of England and in Scotland where the problem of secondary education for these children has arisen.

## White Oak School for Children with Communicable Eye Diseases

White Oak is a residential school situated in the little town of Swanley about 15 miles out of London. It is under the jurisdiction of the Metropolitan Asylums Board, but is very far from being an asylum in any sense of the word. It is more like a small model village in which everything possible has been done to make conditions attractive and homelike. There are flowers everywhere and trees and great open spaces.

A pleasant welcome awaits the visitor, who is taken to meet the matron, Miss Lynch, who has been head of the school ever since its establishment in 1903. She knows not only every child in the school but has kept track of nearly all of the pupils who have ever attended, often finding places for them on leaving and encouraging them in whatever work they undertake.

The boarding part of the school is arranged on the cottage plan with 12 children and a house mother in each cottage, which is indeed a veritable home; not to be sure resembling the homes from which many of the children come, for most of these children are recruited from the poorer classes of society where crowded unsanitary home conditions often tend to increase the difficulties from which they are suffering.

Children are received from infancy up through the age of 16. Many of them remain at the school for several years. There are accommodations for 385 children.

The cottages are arranged so that children suffering from the same communicable eye diseases are kept together as much as possible. The greatest care is taken to prevent the spread of any contagion. In the wash-rooms are spray faucets and basins without stoppers so that the children always wash under running water. The same general plan is followed in the bathrooms where showers are used. There is a separate compartment for each child containing his towels, face cloths, tooth brush, brush and comb, soap and other personal articles.

The children sleep in dormitories, six beds to each. The rooms are large and have a great deal of window space and excellent ventilation.

The grounds are extensive. Children are encouraged to be out of doors as much as possible. When the weather permits, meals are taken there. The children have a number of pets for which they care. They are permitted to go about the grounds at will during play hours.

A specialist attends once a week, examines the children and arranges for the necessary treatments. These are carried out by a staff of well-trained nurses and attendants.

The school is adapted for regular school work, having the usual departments for infants, juniors and seniors. Each child is tested when he comes in and is placed according to his mental age. When the children are transferred directly from the London Schools, they bring their own school records. This is of great assistance in the placement.

The head mistress, called "Governess," and the teachers are all college trained women. They do not live in the school but make daily journeys to and from London. The teachers of the younger children are trained in the Montessori system of education. Teachers have no responsibility for the medical care.

Cleanliness in all things is taught from the very beginning, since this is so necessary to prevent the spread of eye diseases. No work is accepted, even from the very little children, that is not clean.

This school does not follow the plan of the myope schools in all particulars. In many cases of eye diseases, the vision is good and the majority of these children can read ordinary textbooks without

strain. Each child's eye work is regulated by the oculist. For all the children, emphasis is laid on oral and outdoor work. Much of the written work is done on the blackboard. The children do a large amount of various types of hand work: sewing, knitting, crocheting, woodwork, basket making, embroidering, shoe-making and mending, domestic science, etc.

The syllabus of the London County Council Schools is followed and it is the aim of the school to keep all children up to grade in so far as it is possible to do this. Aside from the desirability of keeping up to standard, it is essential that when the eye diseases from which the children are suffering are cleared up, they may be able to return to the regular school without loss of time. In fact, so excellent is the instruction and the eye care at White Oak School that many of the children enter a higher standard than they would have been able to attain, had there been no interruption in their work.

The classrooms are ample in size with excellent natural lighting. Special attention is given to hygienic seats and desks; the greatest care being taken that these fit the children. No child is permitted to sit in an uncomfortable position with his feet not touching the floor. In the infant rooms the "Governess" has installed desks like those used in the schools of Leipzig, a type of small kindergarten table made by turning down the desk.

When the children enter the school, the treatment for a time seems to affect them. They are unable to concentrate or to remember well and great patience is necessary on the part of the teachers. When, however, these effects wear off, the children are required to do the regular work in so far as their eye conditions and general health permit.

A great deal of time is spent in outdoor activities. Students from a nearby horticultural college come every week to give lessons in gardening and the children are encouraged to follow this occupation. Twelve students from the Osterburg School of Physical Training, also in the vicinity, come twice a week with a supervisor. The children are then placed in twelve groups, each student taking charge of a group under the direction of the supervisor.

The boys are taught shoe-making and mending and in the evening

they take up the theory of gardening; the girls are taught cookery, needle work, home-making and laundry.

It is no easy task to arrange and carry out the school program, because the classes are constantly changing. Sometimes as many as ten new children arrive in a single day. They are segregated for a short time until the treatments begin to take effect. No child with suppuration eyes is allowed in any classroom. Teachers are trained to be on the watch for the least sign of suppuration and any child showing this is immediately sent to the dispensary. Treatments, where needed, are given before school hours in the morning, at noon, directly after school hours and at night. Acute cases are, of course, kept under constant supervision. All children suffering from photophobia wear eye shields made of a jade colored paper, stiff enough to hold their shape but soft enough to cause no irritation to the head.

Until very recently, children suffering from interstitial keratitis were not admitted to the White Oak School. In 1924\* the Council of British Ophthalmologists, commenting upon the great benefit derived from fresh air, healthy surroundings and skillfully applied local treatment given at this school to children suffering from phlyctenular keratitis and other corneal affections, urged that a block of cottages at White Oak, situated in the grounds but somewhat isolated from the other buildings, would make an excellent department for the institutional care of these children, since the same advantages offered to the other children at White Oak might greatly reduce impaired sight and blindness from this disease. In consequence, this section of buildings was set aside and a number of children suffering from this difficulty are now housed at White Oak. They have a separate school and are kept quite distinct from the other children.

White Oak is a school that has the satisfaction of seeing very definite results, sometimes within a comparatively short period. Children who come in often covered with eczema, suffering from some acute eye difficulty, nervous, under-nourished, fretful or apathetic would hardly be recognized a couple of months later. Good food, long

\* Report of the Committee of the Council of British Ophthalmologists on the Institutional Treatment of Interstitial Keratitis.

hours of sleep and rest, outdoor play, proper treatment and regular hours combine to change them into rosy-cheeked interested and interesting girls and boys who soon begin to show in the classroom that they have good mentality, which was simply dulled by the many untoward conditions. No child ever runs away from this school. The difficulty is to get some of them to leave. This is surely a fine record for any school to attain.

### Department for Myopes, Royal Institute for the Blind, Birmingham, England

The idea originally back of the establishment of a department for myopes in a school for the blind was to provide for those children living in rural communities having no myope classes in their vicinity.

In the Royal Institute for the Blind of Birmingham, however, the myopes attending this department are all residents of the City of Birmingham and there is no room for the accommodation of rural myopes. The cost of educating the resident pupils in this school is £90 (\$436.50) per year, for day pupils, £38, 10sh. (\$187.00).

So far as school work is concerned, with the exception of type-writing classes, separate classes are held for the myopes and for the blind children. Both groups, however, have their lunches together and play periods are in common. The myope children do not join in the field sports and on field days they have picnics.

The head mistress, Miss J. J. Falconer, has charge of the elementary education in both groups. She is contemplating separating the myope children from those having other eye difficulties, looking toward different educational methods with each group. This has already been done in regard to typewriting. Myopes do not take this. In fact, this school was the only one visited in which any type-writing was taken up by children with seriously defective vision.

The ophthalmological work is exceedingly well cared for. The ophthalmologist in charge visits the school three times a year and makes an examination of the eyes of all these children at each visit.

The records are exceedingly well kept and the children's progress



may be followed from year to year. The rooms are rather large, with light walls, but in some instances the windows are so placed in the back of the room that the children in the front, where most of the blackboards are, get very little light. The artificial light is also inadequate, unshaded lamps producing a great deal of glare. A considerable time is spent in crayon work on the blackboard and in books composed of gray paper.

The children seem greatly interested in their work and the head mistress and teachers are anxious to give them every possible advantage.

### Daisy Hill Sight-Saving School, Bradford, England

This school was visited for two reasons: first, because it is a type of sight-saving school in which the children are gathered together in a separate school building and do no work with children in the regular grades; and second, because the city of Bradford is noted for the excellence of its medical work. Bradford is a manufacturing city situated among the hills. There is a school population of 40,000 children. There are six full-time medical men under the chief medical inspector, four full-time specialists, four full-time dentists, sixteen full-time nurses and six medical gymnastic teachers. The preliminary eye tests are conducted by the teachers with the use of the Snellen chart and the general procedure of other places is followed.

An indication of how excellently the medical work of Bradford is carried out may perhaps be shown by the statistics of the School for the Blind. This was opened in 1915 at which time 40 children were entered from Bradford and 30 from the surrounding territory. Because of the excellent work of health officers and municipal midwives, ophthalmia neonatorum has been practically eradicated. As students graduated from the School for the Blind, or left for any reason, no others came up to take their places and consequently, since 1915 the number of 40 has been reduced to 10, while in the surrounding districts, where the medical work is not so excellently carried on, every student leaving the school has been replaced by an entrant, so that the number 30 has remained stationary.

In September, 1914, a report by the school medical officer was presented showing that there were 270 children in elementary schools and 34 in secondary schools suffering from myopia. It was found that on account of the open air conditions and the absence of close eye work, these children could be suitably taught in the Camp Schools, which had already been established, and arrangements were eventually made for a special class for myopes to be set up in each of these during the summer of 1915. Accordingly, in June of that year, three classes were opened at Daisy Hill, Bolling Hall and Grange Road Camp Schools. The children carried on their work in the open air retiring to the tents for oral work in inclement weather only. The general health of the children benefited by the outdoor life, and the prohibition of near work tended at least to check any progression of the myopia.

At the end of September of the same year, the children were transferred to the Usher Street Special School, but from the beginning it was felt that neither the school nor the surroundings were by any means ideal for a school of this type; it served its purpose until a new and larger school could be built at Daisy Hill.

The premises of this new school were completed in 1922, but it was not until 1923 that the Board of Education sanctioned the necessary expenditures for their complete equipment and on July 16, 1923, the transfer from the old premises at Usher Street took place.

### **Premises**

The new school at Daisy Hill is a self-contained one-story structure built of brick and stucco and stands on a slope with a southerly aspect about 700 feet above sea level with an extensive view across the valley on the western side of the city. The site covers an area of more than 4 acres and is encircled by a plantation of trees. It is a specially constructed and designed open air school and is about three miles distant from the center of the city.

Along the front is an open space of concrete which forms a railed balcony and on this, which is 20 feet wide, the children take exercise and have open-air lessons. It is also used for a playground in bad weather when the field is not fit for games.



DAISY HILL SIGHT-SAVING SCHOOL, BRADFORD, ENGLAND  
Boys at woodwork in the open air



Window space is ample in every room and the south side of the classrooms is largely composed of sliding doors, two-thirds glass, which when put back leave the classrooms open to the fresh air.

The main building consists of the classrooms, Dining and Assembly Hall and teachers' rooms; it is 112 feet long and 29 feet wide, the height of the rooms being 12 feet. The main room is 40 feet by 27 feet, 2 classrooms are 21 feet by 17 feet and 2 classrooms 10 feet by 16 feet. Behind are two wings in which are situated a Medical Inspection room, 16 feet by 10 feet, baths, lavatories, dressing rooms and kitchen. The artificial lighting of the school is electric throughout.

### **Accommodation and Average Attendance**

One hundred and fourteen children are now in attendance, and there is a waiting list of 21 children. A request has been made for additional provision for 50 children. The superintendent in charge of this work feels that this will take care of all the children needing this specialized form of education.

### **Apparatus**

Each child has a special myope desk with a blackboard suitably sloped, which is easily convertible into a horizontal table for manual work. Each classroom has fitted all round the walls a band of blackboards. The boards are fixed so that they may be used by both teachers and pupils and are placed four and a half inches from the wall at the top, sloping to one-half inch from the wall at the bottom in order to prevent glare.

The use of the ordinary school chalk was found to make so much dust as to be injurious to the children's health so that dustless chalk is now used instead and found to be much more satisfactory. Colored crayons are also used in drawing, etc., both on the blackboard and on brown and black paper.

Large sheets of white paper are used for printing. These papers are sewn together and bound with brown paper to form reading books, chiefly for the purpose of teaching the younger children to read. Sheets of blank paper are used occasionally for writing upon,

the paper being clipped to the child's blackboard and the writing done in black crayon.

Frames are employed in the lower classes attached to the back, or larger blackboard and movable letters about two inches in size slide in and out of grooves made for the purpose of teaching reading.

### **Type of Child Admitted**

The children selected by the school medical officer for this school are those who suffer from some defect in vision which is likely to become worse if the child's education is continued in an ordinary elementary school. The most frequent condition of which the children selected suffer is myopia and the degree of this disability sufficient to warrant the admission of children to the school varies with the age of the child. Ninety per cent of the children are myopic, the remaining 10 per cent suffer from hyperopia, optic nerve atrophy, trachoma, congenital cataract, high astigmatism and coloboma.

### **Method of Admission**

When a child is certified by the school medical officer to be suitable for admission to the School, the parents are given an opportunity of appearing before the "Myopes' School House Committee," when they are informed of the school medical officer's recommendation and when they are at liberty to make any representations they wish. In the notice sent to them of the committee meeting, it is pointed out that if the child is admitted to the school suggested, attendance will be required until the age of sixteen years unless he is certified by the school medical officer to be fit to leave the school before this age.

### **Results Shown**

The success of the school in saving sight is indicated by the fact that the medical officer has given certificates for a majority of the children to leave before the age of 16.

### **Means of Conveyance**

The children travel to and from school by tramcar, tram-tokens being supplied to them free by the Committee. Guides are pro-

vided where necessary to convey the children from their homes to the center of the city and back again. From the center of the city, they are taken charge of by the teachers and conversely on the return journey.

## **Meals**

In Bradford, great care is taken in furnishing the children with a hot nourishing meal in the middle of the day. There is a central cooking department and from this the food is conveyed to the Daisy Hill School by motor lorry in heat-retaining receptacles.

## **Staff**

The school is staffed by a head master and four assistants. An ophthalmologist spends one day a week at the school and examines the eyes of the children, in rotation, unless special cases are called to his attention. It is the plan to have every child re-examined at least once in every three months, particularly the myopes, to note any possible progression. A number of children have been returned to the regular schools. The oculist sees the children at their work, confers with the head master, teachers and nurse as to the amount of work each child is best fitted to do, and is making a very careful study to ascertain, if possible, underlying causes of the eye difficulties.

## **Curriculum and Time Table**

The time table is so arranged as to leave most of the manual work for the afternoons. This includes such work as cookery and laundry for the older girls, coarse knitting, cane work, netting, printing, light woodwork, clay modeling, raffia work, paper work, toy making.

The ordinary school subjects, literature, singing, arithmetic, geography, history, etc., are taught as efficiently as is possible, within the limitations necessarily fixed by the absence of the usual school books. The head master has had a number of tests made in the various school subjects, the children competing with those of the regular schools. The results of these tests from his own observation and that of others, show that in general information, the

students of the Daisy Hill School are considerably in advance of those of the regular schools. In literature, singing and arithmetic they are on a par; in geography and history they are somewhat behind the regular school children.

Physical exercises and games are selected with great care. The children perform the usual free movements with the exception of forward bending, and stooping exercises. Swimming is included in the exercises, but not diving.

To those pupils suffering from high myopia, careful attention is given to the avoidance of any degree of fatigue; others who have spinal curvature are treated with remedial exercises at the school clinic and leave school periodically for these exercises.

### **School Hours**

The school hours are 9 a.m. to 12 noon and 1:30 p.m. to 3:30 p.m.

The education authorities of Bradford feel that placing these children in a separate school is no detriment because they have gathered together a sufficient number of pupils so that there are several pupils of the same mental age in each group. The children are not classified in definite standards; each child is allowed to progress as rapidly as possible in each subject. He may be attending the third standard for reading and the fifth standard for arithmetic.

A great deal of work is done out of doors when the weather permits, not only games and exercises but actual academic work. The children have gardens but care is taken that the myopes do no digging or anything that will require them to bend over in a manner that might increase their eye difficulty.

The head master has very decided ideas about his teachers. He will not accept any teacher who has not had the necessary basic preliminary educational training and at least five years' experience in successful teaching in the elementary school.

Although the cost of the Daisy Hill Myope School is considerably higher than the regular schools, it is the least expensive of the special schools.



## Private Myope School, Piltdown, England

The little myope school at Piltdown is unique; it is believed to be the only school of its kind in the world. It was established in the spring of 1926 by Mrs. A. Bridge, who for many years conducted a girls' school at Brighton, England. Two of her own children are high myopes and as she could obtain no specialized educational advantages for them, she decided to open a private myope school.

This is ideally situated in the Downs of Sussex, about an hour and a half by train out of London, through very beautiful country, bright with yellow gorse in the spring and with purple heath in the fall. To any one unacquainted with the Downs of England, it may be said in the language of a wag that a "Down is an Up." The rolling hills and valleys stretch out in all directions, with here and there a small lake or pond, most attractive for swimming, bathing, wading and punting in summer and skating in winter.

Such a pond is adjacent to the small estate that is the site of this unique school. The old farmhouse is surrounded by gardens, each child having one of his own to care for with such help as is necessary to prevent any strain or increase of his myopic condition. Pets abound, a numerous family of chinchilla rabbits being the center of interest.

The school room is most attractive. It has been remodelled from an old barn. There are very large windows facing the east; the entrance is on this side of the building through a wide glass door which is left open in good weather. Even when it is closed, the children may rest their eyes by long distance views through the glass. On the west side of the room there are small windows, high up, touching the ceiling. The walls are finished in a soft green matt surface with white ceilings. The woodwork is dull finished soft grey with desks to match of the same type as those used in the London schools, with the exception that they are not blackened on the under side. There is ample blackboard space under the west windows for so small a number of children (Mrs. Bridge will not accept more than ten) to do much of the work that is written at the seat boards in places where the rooms are crowded.

A very careful program is arranged for the morning hours. The

younger children do Montessori work under a specially trained teacher. The older pupils follow a regular academic program with various forms of hand work more or less correlated. Considerable attention is given to picture making with crayons and special emphasis is laid on oral work. No close eye work is done when the natural light fails. Besides the special teacher there is a French governess who gives the pupils lessons in oral French and French composition.

When the weather permits, meals are taken out of doors and outdoor games and exercises which the eye condition of these pupils permit them to engage in are encouraged. Practically all of the afternoon is spent in the open.

This school has been in existence such a short time that it is impossible to draw any very definite conclusions. However, the records of a complete physical examination given at the end of the first term and compared with the entrance reports are of interest. The eye condition of one child had improved considerably; in the others, it had remained stationary. All of the children had gained in weight and improved in general health. The reports from parents after the children had returned home for the summer holidays indicated very decided gain. Summed up, the consensus of opinion was that the children proved to be far less nervous than formerly; that they had acquired far greater power of concentration and that they seemed to be able to think better.

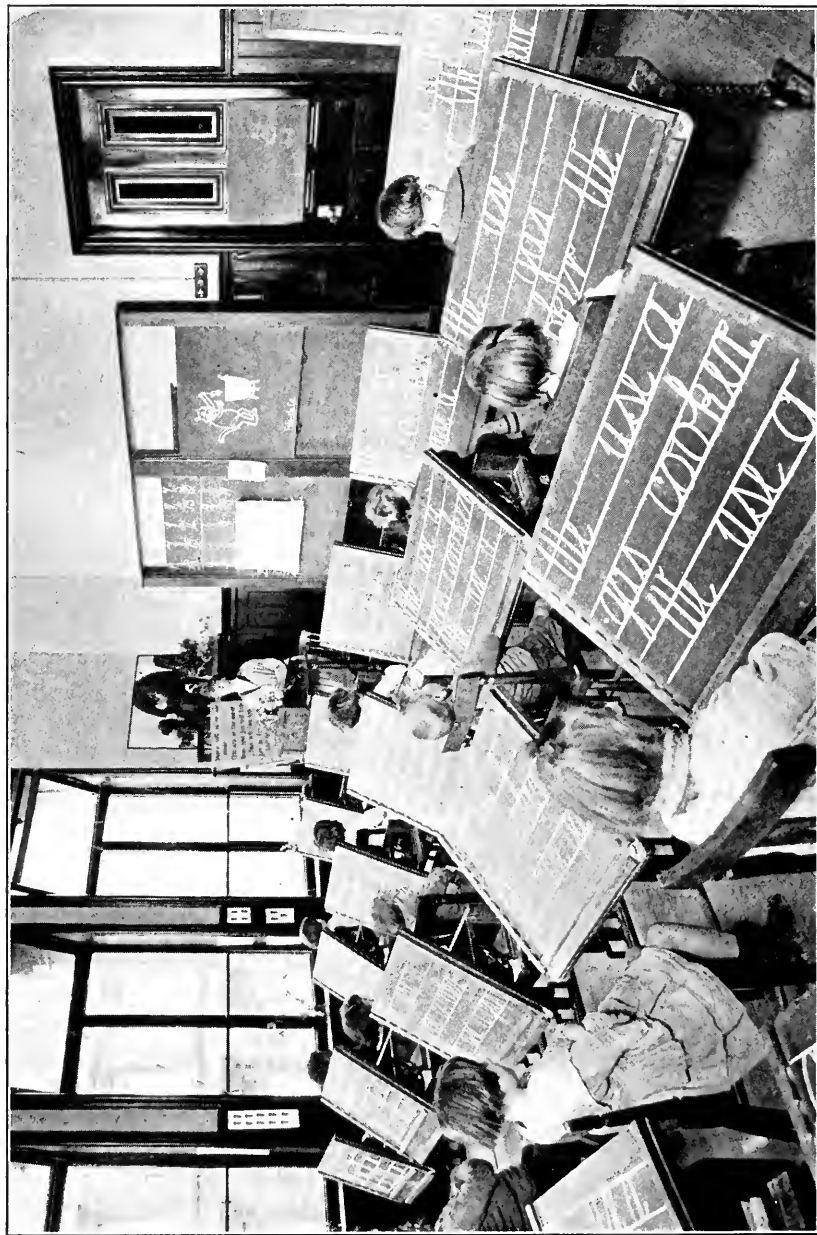
## Myope Classes in Scotland

Since special schools are not listed separately in the reports of the Scottish Ministry of Education, it was impossible to secure a complete list of the Scottish myope classes. Information was obtained of classes in Aberdeen, Dundarton, Dundee, Edinburgh and Glasgow, but there are doubtless classes in some other cities.

While in London the co-ordinating method of conducting these classes prevails, in Scotland the tendency is toward segregation.

Under the Education Acts of Scotland, myope children are not classified as blind. They receive their education under the classification of physically defective children.





GLASGOW MYOPE SCHOOL  
Children preparing for a competition in writing a composition on gas



GLASGOW MYOPE SCHOOL

The children were permitted to write their compositions for this competition on their deskboards



The proportion of expense borne by the local community and the government varies in different communities. In Glasgow the government meets approximately 46 per cent and the local community 54 per cent of the expense.

Myope classes in this part of Scotland were initiated in Govan, April, 1915. The teacher who was to become head mistress of these classes made a careful study of the various types in existence and decided upon the segregation plan. A second center opened in this vicinity followed the same method. In September, 1916, Glasgow established a school on the co-ordinating plan. When Govan became a part of Glasgow, a controversy arose as to which type should be used. It was finally decided as an experiment to let all three centers continue their own methods, the educational authorities to decide in time on which proved to be the best. This time has not yet arrived, but the educational director of Glasgow is inclined to the segregation method. His arguments for this choice are that in the regular schools in Glasgow the classes are exceedingly crowded, most of them numbering 60 children. He believes it would be detrimental from the viewpoint of the myopic child, the regular school child, and the teacher, to add another child to these already overcrowded rooms. The teacher would be unable to give the child sufficient attention to be sure that he was not receiving eye injury.

The Edinburgh class, established February, 1923, is founded upon the Govan classes and hence is of the segregated type, except that on one afternoon a week the boys go to a regular school for wood work and the girls for cookery.

In both these cities the medical and ophthalmological work is exceedingly well taken care of. There are no set standards of eye condition for admittance to the myopic schools, the ophthalmologist having charge of the work deciding upon the cases individually.

In Edinburgh a school population of approximately 60,000 is divided among 84 elementary schools, 12 intermediate and secondary schools, 20 special schools and classes, four company schools and one Edinburgh institute. To serve this school population there is a medical staff consisting of a medical officer, five full-time assistants, six nurses for medical inspection and four nurses attached to the special classes. A staff at the treatment centers consists of six

part-time medical assistants, two part-time oculists, two part-time aurists and five full-time nurses. Complete medical examinations are given three times during the school life, and parents are requested to be present. Cases needing treatment are referred to their own physicians, to hospitals and dispensaries, or to the treatment centers. Of 4,601 notices issued last year to parents of children suffering from defect, 1,082 were connected with defective vision.

Practically all the special schools for the physically handicapped are located in a group of buildings in which the chief medical center is situated. This move was made in order that the children might receive better medical supervision and attention. At this center there is a general clinic in which the children are sorted out and sent to the various special clinics in the same building. The ocular examinations are most carefully and patiently made, no time or energy being spared in getting the best results.

The one myope class of 15 children representing all standards of the elementary grade and, in addition, two boys of very high I. Q. who completed the work some time ago, does not begin to take care of the children needing this form of specialized education. It is expected that three more classes will be established in the near future.\*

The following is a list of equipment for the classes in Edinburgh:

- 2 dozen blackboards in desks for children's use
- 3 dozen dusters for children's use
- 6 boxes white dustless chalk
- 1 box colored chalk
- 2 reams white cartridge paper, 30 in. by 22 in.
- Cane for baskets, 1 lb. each of 0, 3, 4, 6
- 1 lb. flat panhandle cane
- 2 pairs of cane clippers
- Textbook: "Useful Cane Work, Nos. 1 and 2," by R. M. Jacks
- Plasticine, 1 lb. gray
  - 1 lb. terra cotta
  - 1 lb. green
  - 1 lb. yellow
  - 1 lb. white
- 2 dozen boxes Reeve's greyhound pastels
- Knitting material: 2 dozen pairs pins, 7 inches, 12 cut wool 6 colors

\* These three classes were established in January, 1927.



10 blocks of wood, and letters carved out of wood in school workshop  
Raffia: purple, orange, blue and natural  
1 printing outfit, small letters 1 inch, capitals 2 inches  
1 dozen pairs of scissors  
2 easels and 2 blackboards for same  
1 printing frame  
1 purple ink  
Play wax: green, crimson and yellow

Glasgow is noted for its medical inspection and treatment. Although only 28.4 per cent of the school population of Scotland is in Glasgow, 65 per cent of all the medical work done in the country is accomplished in that city. The myope classes there were started as a local experiment without any assistance from the government. The government now bears its proportional amount of the expense. This is provided for in two ways: A certain proportion of the teacher's salary is paid; and a per capita rate is added for each pupil.

The educational authorities transport the children in trams and buses. They pay the carfare of the guides where this is necessary.

Classrooms are not nearly so crowded as are many of the London rooms. They are large and well lighted naturally, and some of them are well decorated; in others very dark green walls prevent full use of the light that is available.

The artificial lighting is very inadequate. In practically all the rooms there are three or four single unshaded drop lights.

The maximum number of children in any one class is twenty. However, this means twenty in attendance. Usually there are several more on the register.

In general, it is not expected that the children will keep up with the regular school standards. They are usually from one to two years behind. The average child in the regular school is expected to finish the seventh standard of the elementary school at the age of twelve. In the myope class he is not expected to do this until he is fourteen. There are, of course, exceptions to this rule, several of the myope children having passed the regular scholarship or "control" tests.

In Glasgow there are three centers of myopic classes. Two of

these have three classes each and one has four classes. There are but two standards to a teacher.

A very great deal of attention is paid to home contact. The teachers visit the homes to learn of conditions so as to be able to give the children the best possible training. One of the arguments advanced by them for having the segregated classes is that when a teacher has a child in her charge for three or four standards, she has much greater opportunity to give him training in character building.

Another argument is that children with seriously defective vision are at a disadvantage when working with normally sighted children because they are made conscious of their difficulties. When playing with them there is the possibility of accident.

A good deal of hand work is done in the Scottish classes. In Glasgow, there are some very fine examples of the children's work in clay pottery.

## Summary

In the myope schools of Great Britain the visitor is impressed by the fact that the greatest emphasis is placed on the medical aspect. The medical inspection and follow-up work are most carefully and systematically done. The educational work for the most part appears somewhat subservient to the medical department. This is proper and fitting in many ways, as the main object for the existence of these classes as separate units is to save sight. It doubtless serves at times as a protection against the tendency of some ambitious teachers to urge a child to do more eye work than he should be permitted to do.

On the other hand, this plan has some drawbacks; in many instances the rulings and recommendations of the medical department are excellent in themselves but, in their practical application in the school room, the main element is sometimes obscured by adherence to a minor idea. For example, the myope desks which hold the work in an upright position, while correct in theory, do not always work well in actual use. Although they keep the child's head in an upright position while he is writing at the top of the desk blackboard, by the time he reaches the bottom of the board his posture is not to be commended.

In most cases no attempt is made to keep the pupils abreast of the assignments of the regular schools. With the large enrollment in these classes this would be well-nigh impossible. This plan cannot be recommended. Some children are able to return to the regular schools and are then at a disadvantage. Children from the myope classes are now being admitted to secondary schools where they will be expected to keep up to the standards of the other children. Since competition is so keen in vocations it is an added handicap to the pupils not to have the best education compatible with their eye difficulties.

The myope schools are hampered by conditions over which they have no control. The lack of sufficient funds is a most serious drawback. The teachers deplore the fact that there is practically no opportunity for special training. Improved lighting, smaller classes and books printed in the proper size type are all necessary improve-

ments but all would materially add to the cost of conducting the classes. In spite of the lack of these things, the myope classes are justifying their existence.

The myope schools in Great Britain were established to conserve sight and have never wavered from the path to that goal. They are pointing the way to countless other classes still in the pioneer stage.

## APPENDIX

The report of this brief survey of myope schools and classes in Britain could not come to a fitting close without the following valuable compendium:

### MYOPE CLASSES\*

By N. BISHOP HARMAN, M.A., M.B. Cantab., F.R.C.S. Eng.

Senior Ophthalmic Surgeon to the West London Hospital and Consulting Ophthalmic Surgeon in the Public Health Department of the London County Council

### HINTS FOR TEACHERS OF MYOPE CLASSES

#### The Children

1. Myope classes are established for the purpose of providing suitable education for children who are short-sighted; whose sight is too poor to enable them to do the work of the ordinary school with safety, and who yet see too well to be provided for in a school for the blind.

2. The myope class will contain three types of children: true myopes, who will form about two-thirds of the number on the roll, children with scarred eyes whose vision is poor and children whose eyes have not developed properly and who therefore see imperfectly.

3. The myopes have frail eyes, overstretched and therefore weakened. Sight is also defective, even with the glasses they need and should always wear. Certain of them have very high myopia, the medical record cards of these children are marked CARE: these children should wear red buttons on the breast to indicate that they need exceptional care. If the monitors are always chosen from amongst the wearers of the red buttons no objection will be taken to the wearing of them.

4. The children with scarred eyes see as through a fog. Some are liable to recurrent attacks of inflammation, especially if they get overtired or wet. If an eye should get red, apply a hot fomentation, and send the child home with a note urging treatment. Where there is long-continued freedom from attacks the scarring may get less dense and vision improve, enough possibly for some to return to the ordinary school.

5. Children with congenitally defective eyes may, for the most part, do any work they can see to do.

#### Teacher and Child

6. The teacher of the myope class is the pivot of its working. On the initiative and resource of the teacher depends its success.

\* Issued by the London County Council, December 17, 1926.

7. The number of children allotted to each myope class is reduced below normal class standards since individual teaching is necessary.

8. Individual care allows of the cultivation of the bent of the child better than large class methods, and increases the interest both to teacher and child.

9. A child with more than average capability in any direction may be greatly benefited by encouraging him to help other children in the particular line of work in which he excels.

10. Cultivation of thought and memory is the first consideration in the training of these children. Teach by word-pictures and stories, and illustrate by showing objects and bold blackboard drawings.

11. Cultivate association memory in the child to the utmost. Encourage each child to produce drawings on the blackboard, models in paper or plasticine, to illustrate the lesson given. Especially let arithmetic be associated with concrete examples, so that it may be applied to actual conditions of life known to the child.

### Curriculum

12. Cultivate amicable relations with the normal school in which the myope class is housed. Experience has shown that the heads of normal departments and class teachers are most willing to help the myope classes. Keep a record of the work done in the normal standards day by day. Keep children of similar attainments as near to the same level of work as possible, at least to the appreciation of the broad lines of that work.

13. After any of the children have attended oral teaching in the normal school set them to write out on their blackboards the main facts of the lesson they have heard. Let those of equal standing criticize each other's work. Myopes must not make notes during oral lessons in the normal school.

14. In the blackboard work see that the surfaces are black and free from grease; soap and water with a dash of paraffin clean best. Report defective boards to the proper authority. The chalk writing must always be done free-arm fashion—that is, at full arm's length. Chalk marks should be thick and heavy, and not spider lines. The size of letters written on the individual blackboards should be two inches in body height for the smaller children and not less than one inch in body height for the older children. Blackboard writing done by the teacher on the demonstration boards should be extra bold and large.

15. Printing with the rubber types is one of the best exercises in pre-

cision and care that can be given to the older children. The work fixes the sense of the printed matter in the mind better than any other measure. Printing should be done upright against the wall in a good light. The "copy" to be printed must be written out by the teacher on the blackboard and not taken directly from a book by the child.

16. Printed wall sheets of type of two-inch body may be used for group teaching; and of type of one-inch body for individual reading by children. The sheet should be clipped on a blackboard at arm's length before the child.

17. The sheets printed by the children, when of good quality, should be added to the class "library." It should be considered a high honor for a child to secure the acceptance of a piece of work for that library.

18. It is possible for a good worker to print extensive passages from selected literature on rolls of paper which may be mounted on rollers for class purposes.

19. Exchange surplus printed sheets with other myope classes; usually a steady supply can be obtained by single classes from centers where there are two or more classes.

20. BOOKS, EXERCISE BOOKS, PENS OR PENCILS, OF ANY SORT, ARE NOT TO BE USED BY ANY OF THE CHILDREN IN THE CLASS UNDER ANY CIRCUMSTANCES. These articles are to be reserved for the exclusive use of the teacher.

21. The withdrawal of books of every sort from the use of the children is done with the express purpose of cultivating the habit of not reading. Reading is too great a temptation for them, and one that must be avoided habitually. Make the child's chief interest an outdoor interest, then the indoor interest of books will be diminished.

22. Elder children may make permanent records of their work on black paper with white chalk, or white paper with black solid ink crayon, the writing to have a body size of not less than half an inch, and to be done free-arm fashion.

23. Every form of handiwork that does not entail close and continuous examination of small objects or markings may be employed. Cultivate the habit of FEELING processes rather than seeing them. Sewing is prohibited. String work, large bead work, knitting, netting, stick work, basket making, coarse plaiting, woodwork, bent iron work, modelling, weaving, may all be employed. It is important to give each subject some additional associated educational value over and above that of the training of the hands in craftsmanship.

**Physical Conditions**

24. Physical conditions react seriously upon the sight of these children. Bodies must be held erect, stooping must be checked daily and hourly. Work must be done at arm's length, therefore work must be large; peering means fatigue. Children must not work facing the light; this should fall from the left-hand side.

25. Glasses must be worn by those children for whom they are ordered, and when broken they should be replaced promptly.

26. Children who live at a distance from the school should be examined on wet days to make sure their feet are not wet. It is good for such children to keep an old pair of shoes at school for use on wet days.

27. Luncheons should be inspected to ensure that the child has a sufficiency of food for the day.

28. Lessons should be short, not more than half an hour at a time. The sequence should be as varied as possible, so that lessons of similar order do not follow each other.

29. When daylight is poor, suspend all blackboard and handiwork lessons, clear the floor of desks, and give singing, drill, physical exercises, or teach geography on a floor map about which the children can walk, or teach history by impromptu acting. Blackboard and handiwork lessons should not be done by artificial light.

\*30. Physical exercises for myopes may include all those taught to the normal children, except such exercises as involve the body being fully bent forward and downwards. All drill and dancing may be taught, but no jumping should be allowed. These exercises may be done with the normal children. Swimming may be allowed, but not diving; the swimming lesson must be short, especially for the children with scarred eyes. Boxing is absolutely prohibited. Ball games may be played with a soft ball, but not in company with the normal children; the short-sighted children see slowly and so are handicapped and run an extra risk. Football should be excluded on account of risk of injury from "charging." Skipping may be practised when this is done with regular alternation of the feet: jumping, skipping with both feet together must not be done.

**The Doctor**

31. Refer all difficult cases, or where some failure of vision is suspected, to the visiting eye doctor immediately. Reports should be sent to the school medical officer and not to private addresses. Send the medical record in such cases. Keep a note book in which any ordinary diffi-

\* This paragraph should be brought to the notice of teachers in Elementary schools who receive myopic children for oral lessons or physical exercises.



culty or question regarding the conduct of work may be entered. Ask the eye doctor about these points at his visit; he is there to help you.

### **The Parents**

32. Cultivate friendly relations with the parents; welcome visits and inquiries from them. The exhibition of the work of the children on specified occasions when parents and friends are invited greatly increases interest in the classes in all quarters, and makes both teacher and child feel that their class is not a side-issue but in the full stream of scholastic progress.

### **Other Myope Teachers**

33. Cultivate the interchange of ideas with teachers of other myope classes; everything you think of as a possible improvement is worth trying, and so also are their ideas, and the permanent utility of each suggestion should be checked by careful experiment and observation.

### **Cinematograph and other Entertainments**

34. Attendance of children of myope classes at cinematograph displays should be discouraged. Short-sighted children suffer readily from eye fatigue, which may cause more lasting injurious effects. All forms of music should be encouraged, particularly playing and singing by ear.

### **Employment**

35. At frequent intervals discuss with the children, especially the elder ones, the various kinds of employment carried on in the neighborhood, or other kinds known to you. Point out the advantages of work for short-sighted children that leads the worker to go out and about, and the disadvantages of work that means sitting indoors and at a desk or bench for many hours together.

36. Keep a record of the work that the children go to when they leave school. Invite them to let you know how they get on, and what changes they make in their work. There is much need of careful and continuous records of the progress of these children after leaving school.

## **OCCUPATIONS FOR MYOPES**

37. Careful enquiries have been made as to the most suitable occupations for children suffering from marked myopia and the following suggestions are offered for the guidance of those concerned.

The occupations are in two grades, the first selection (A) is mainly of the out-door type, enabling the worker to be standing and moving—the general health is likely to be better for the freedom of movement enjoyed

and with the improvement of general health the state of the eyes is likely to be benefited. The second selection (B) involves sitting and stooping to some extent and is, therefore, not so good for the body and the eyes.

A.	Boys	B.
Nursery gardening.	Stick and pipe mounting.	
Messengers.	Pipe makers.	
Insurance agents.	Some branches brush making.	
Rent collectors.	Basket making.	
Piano tuners.	Artificial flower making.	
Poultry farming.	Confectionery.	
Hawking or street trading.	Boot mending.	
Travellers or canvassers.	Metal punching.	
Shopwork under good conditions.	Upholstery.	
Wire workers (bird cages, etc.).	Coffin making.	
Hotel and club servants (no lifting).	Builder's merchant.	
Chemical soap and candle factories (wrappers and packers).	Ironmonger.	
Skin dressing and tanning.	Tobacco stripping and cigar making.	
Social and welfare workers (N.S.P.C.C., R.S.P.C.A., Y.M.C.A., etc.)	Veterinary assistants, Zoo keepers, Animal care and breeding.	
School attendance officers.	Machine minders (layers on in printing).	
Theatre attendants, liftmen and door porters.		
Telephone operators (private firms).		
French polishers.		

A.	GIRLS	B.
Florists' work.	Box making.	
Waitresses and still room workers.	Envelope folding.	
Dairy shops.	Show card mounting.	
Under nurse maids (no sewing).	Some branches brush making.	
Light warehouse work (packing).	Cork sorting.	
Helpers at schools for mothers.	Cementing and black bordering.	
Helpers at special schools and dining centers.	Stock room work.	
Domestic service (place carefully selected).	Artificial flower making.	
Hotel and club servants (no lifting).	Fancy paper workers.	
Social and welfare workers (Y.W.C.A., N.S.P.C.C., R.S.P.C.A., etc.).	Stationery trade.	
Telephone operators (private firms).	Cigar making and tobacco stripping.	
Chemical soap and candle factories (wrappers and packers).	Upholstery.	
Skin dressing and tanning.	Confectionery.	
Wire mattress weaving.	Knitting factory.	
French polishing.	Metal punching.	
	Pipe makers and mounters.	
	Machine minders (layers on in printing).	

## REFERENCES

- Fundamentals of School Health, James Kerr, M.A., M.D., D.P.H., London, Geo. Allen & Unwin, Ltd., 1926, 860 p.
- School Vision and the Myopic Scholar, James Kerr, London, Geo. Allen & Unwin, Ltd., 1926, 159 p.
- The Eyes of Our Children, N. Bishop Harman, M.A., M.B. Cantab., London, Methuen & Co., Ltd., 1916, 120 p.
- The Child at School, Sir Leslie McKenzie, M.A., M.D., LL.D., E.R.C.P.E., F.R.S.E. London, Faber & Gwyer, Ltd., 1926, 236 p.
- Reports of the Council of British Ophthalmologists:  
The Council of British Ophthalmologists, its Constitution, Aims and Work, London, Geo. Pullman & Sons, Ltd., 1925.  
Standards of Vision for Candidates for Scholarships and Teacher-  
ships under Local Education Authorities, London, Geo. Pullman  
& Sons, Ltd.  
Institutional Treatment of London County Council School Children  
Suffering from Contagious Eye Diseases, London, Geo. Pullman  
& Sons, Ltd., June, 1921.  
Institutional Treatment of Interstitial Keratitis, London, Geo.  
Pullman & Sons, Ltd., April, 1924.  
Method Adopted in Various Parts of the British Isles for Education  
of Children Suffering from Defective Vision due to Myopia or  
Other Causes, London, Geo. Pullman & Sons, Ltd.
- Publications of the London County Council Including Prospectus of  
County Secondary School at Clapton.
- The Howard Plan of Individual Time Tables through House Organiza-  
tion, M. O'Brien Harris, D.Sc.
- List 42. Certified Special Schools, Recognized Institutions for the Train-  
ing of the Blind and other Defective Students and Nursery Schools  
in England and Wales, London, His Majesty's Stationery Office,  
1926, 40 p.
- Education Act, London, His Majesty's Stationery Office, 1921.
- Education in England and Wales, Report of the Board of Education,  
London, His Majesty's Stationery Office, 1926, 202 p.
- Suggestions for the Consideration of Teachers and Others Concerned in  
the Work of Public Elementary Schools, Board of Education,  
London, His Majesty's Stationery Office, 1923, 150 p.
- List of Official Publications, Board of Education, London, His Majesty's  
Stationery Office, 1925, 26 p.
- Report of the Committee of Council on Education in Scotland, 1925-1926,  
London, His Majesty's Stationery Office, 1926, 50 p.
- Control Examination Tests, Scottish Education Authorities, Glasgow,  
Robert Gibson & Sons, Ltd., 1925, 108 p.

Eighteenth Annual Report by the Medical Officer for the Year Ending July, 1925, Education Authority for Edinburgh, Edinburgh, T. & A. Constable Ltd., 1925, 40 p.

The Organization of Education in Edinburgh, John Stewart, O.B.E., J.P., S.Sc., Edinburgh, T. & A. Constable Ltd., June, 1925, 92 p.

Annual Report of the Work of the Authority to Which is Appended the Annual Report of the Medical Inspection and Treatment of School Children, Education Authority of Glasgow, November, 1925, 56 p.

Report of the Educational Requirements of Glasgow, Education (Scotland Act 1918), Glasgow, McCorquodale & Co., Ltd., 1920, 194 p.

# SIGHT-SAVING CLASSES

## THEIR ORGANIZATION AND ADMINISTRATION

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## Introduction

**S**IGHT-SAVING classes as a form of specialized education are a comparatively recent movement. They originated in England in 1908. The first class in America was established in Boston in 1913 through the efforts of Mr. Edward E. Allen. The growth has been relatively slow, and much time has been spent in careful experimentation. They have, however, been rather generally accepted by school administrators as being an essential part of a school system differentiated to meet varying educational needs.

It is felt that enough experience has been accumulated in the administration of sight-saving classes to make it worth while to issue a publication which will be of service to boards of education, school superintendents, and general and special supervisors, who may contemplate the establishment of such classes. It is, however, to be kept in mind that the work is still in an experimental stage and that the statements made in this publication are intended to meet present needs, with the full realization that in years to come they will require considerable revision.

The National Committee for the Prevention of Blindness issued in 1919 a handbook intended to cover the various phases of sight-saving class work as then accepted. This is being replaced by two publications, one dealing with methods of teaching sight-saving classes;\* the other, with the administration of such classes.

## Aims

The aims of sight-saving classes have been admirably stated in "SIGHT-SAVING CLASSES—CLEVELAND PUBLIC SCHOOLS":†

1. To educate pupils with the least possible eyestrain.
2. To teach them enough eye hygiene to conserve the vision they have.

\* *Methods of Teaching Sight-Saving Classes*, by Estella Lawes. Published by the National Committee for the Prevention of Blindness, 370 Seventh Avenue, New York City.

† *Sight-Saving Classes—Cleveland Public Schools*, Coffin and Peck, p. 9.

3. To provide such vocational guidance as will prevent them from choosing occupations which would be injurious to their eyes.

## Conservation of Vision

From the standpoint of conservation of sight, every school system has to consider three groups of children:

1. Children with normal vision.

The responsibility of the school system for this group is to make every effort to keep the vision normal through attention to general health and eye hygiene and to the correct physical equipment of the classroom, including correct lighting, seating, ventilation and the use of well printed textbooks.\*

2. Children with defects of vision that may be corrected or diseases of the eye that may be cured.

Here the responsibility must of course include the benefits provided for the first group and in addition co-operation with the parents in having the necessary correction or treatment that will bring the child's vision as near to normal as possible.

3. Children with serious eye difficulties who, after proper refraction and treatment, cannot be profitably educated in the regular grade. This group includes children with serious eye diseases involving loss of vision where treatment over an extended period must be given.

The responsibility for this group is even more complex. It is with the educational problem it presents that this publication is concerned.

## Eligibility to Sight-Saving Classes

Experience indicates that one child in every five hundred of the school population requires the advantages of a sight-saving class. In crowded and insanitary districts the percentage may be somewhat higher.

For all practical purposes, children having less than 20/200 vision by Snellen Chart measurement are considered educationally blind and are usually eligible for schools or classes established for the education of blind children. Between this group and the group that

\* *Conserving the Sight of School Children.* A joint report of the National Education Association and the American Medical Association with the co-operation of the National Committee for the Prevention of Blindness.

may be profitably educated in the regular grades are children with eye troubles of four types, which make education in regular school classes impractical or impossible:

1. Children having more than 20/200 vision but not possessed of sufficient visual acuity to enable them to read ordinary print or to see figures or letters on the blackboard.

2. Children who may be able to read ordinary type but only at the expense of their vision or general health.

3. Children with progressive eye troubles.

4. Children with diseases of the eye that seriously affect vision.

The question at once arises as to what shall be the ophthalmological guides which shall serve for the selection of pupils to be admitted to such special classes. Certain states, notably Ohio and Massachusetts, have adopted rather detailed specifications and rules, and any one interested may secure these by writing to the State Departments of Education.

In general, it is believed that the purpose of these classes will be satisfied by such selections as may be agreed upon by local ophthalmologists in consultation with school officials. Of course, such determinations should provide for the admission of the children who are classified in the four groups as given above.

In the first group, selected in part by simple acuity of vision tests and in conference with the ophthalmologist after corrections are made, will be found those children who cannot keep pace with their classmates without an undue amount of attention from the teacher, and those who, if required to use the regular school books and appliances for the same periods of time as their classmates, may suffer irreparable damage to their vision.

In the second group will be found those children with errors of vision not susceptible of complete correction by lenses and who need to have their close vision work minimized in the interest of their health—children with mixed astigmatism, with permanent corneal cloudiness or scars resulting from disease or accident, with cloudiness of liquid eye media, and with faults of development making permanent life handicaps.

In the third group will be found that class of children prompting the establishment of the English classes for myopes, namely, the children whose eyeballs are too long to permit proper focusing of

parallel rays of light on the retina, and with walls of the globes weak, thin, or thinning. These children, with close study from common schoolbook type, are apt to have the nearsightedness grow progressively worse because of stretching of the eyeball until eventually blindness may result. Properly organized sight-saving classes may avert profound damage until the eye change becomes more or less arrested.

In the fourth group will be found those children with acquired or hereditary disease making it imperative that special safeguards be utilized in giving them such an education as may safely be acquired without further impairment of their vision. Many in this group may require admission to the sight-saving class for portions of their school career only or while under continuous treatment. In any event, a child in this group will be more likely to be given a chance of having the disease arrested or cured if handled by those greatly concerned with conservation of vision as well as promotion of the child's education.

## Determination of the Need for a Sight-Saving Class

Any superintendent of schools may determine roughly the number of school children in his charge who may be eligible for attendance at sight-saving classes by using the estimate given earlier in this publication, namely, that one out of 500 children usually has such defective vision as will make it impossible for him to take work with profit in the regular public school; in industrial cities this percentage may be somewhat higher.

When the probable need in a city has been determined, the next step toward the establishment of sight-saving classes is to secure the names of the children probably eligible through school records already available. This is comparatively easy when a system of medical inspection has been in use which has made a record of the eye examinations. Such a list of pupils can be secured through the assistance of the health department, of the schools and of special health teachers.

In many cities this preliminary study will be sufficient to warrant the superintendent in recommending to his school board that a class be established and the necessary appropriation be made for it. In other cases it may be necessary for the superintendent to secure



EXCELLENT LIGHTING AND WINDOW SHADES\*

\* Picture secured from Atlanta, Georgia, sight-saving class.



from his teachers a list of possible cases and have these referred for examination by an oculist. Of course, all such ocular examinations should be made in co-operation with the regular medical inspection corps.

## Supervision

### Ocular

Ocular supervision should be maintained for the majority of children during the time they are enrolled in the sight-saving class.

Such care may be given by private or school oculists; in addition the oculist, supervisor, teacher and parents should work together to save sight.

Every teacher should be supplied with a record card giving the child's visual acuity, the eye difficulty, the time for the next examination, a statement as to whether or not glasses are prescribed, whether treatment is necessary; whether quiescent conditions are likely to become acute, and the amount of eye work the child is able to undertake.

The sight-saving class teacher must have a considerable knowledge of the eye conditions recorded in order to give the child the full advantage afforded by the class. If she does not understand just what progressive myopia may mean, she will not be able to appreciate why a child suffering from this difficulty should always work with his desk at an angle; or why he should not be permitted to join in such gymnastic exercises as are likely to cause an increase of his trouble. She will be similarly unable to appreciate the fact that an albino child cannot work in comfort with the same amount of light as may prove beneficial to a child with corneal scars or other static conditions. Only through an understanding of the ocular difficulties from which the child is suffering, gained through the closest co-operation with the oculist and by intensive study on her part, can the teacher hope to achieve the highest aim of the work that she is undertaking. Such knowledge is of course for the purpose of enabling her to co-operate more closely with the oculist and never for diagnosis or treatment.

### Educational

#### LOCAL:

In cities having a sufficient number of sight-saving classes to warrant it, a supervisor should be appointed to take charge of the

work. In places where the number of classes does not justify such an expenditure, one supervisor may serve all types of special classes. There is, however, a distinct advantage in having special supervisors, since the work of these classes differs materially from all other lines of specialized education. The duties of such supervisors are manifold. They should be continually looking for children requiring this type of education and getting them to attend sight-saving classes. They must also establish new classes as they become necessary, select and equip classrooms, assist sight-saving class teachers in solving pedagogic and ocular problems and, in general, undertake the many adjustments necessary to assure the best results. Such a supervisor should have broad training and experience. Good supervisors do not stop with the work of the sight-saving classes; they realize that sight-saving is a problem of educating the community and they seek to use their knowledge in helping to make every regular class so well guided and guarded in the care of eyes that the number of sight-saving classes may eventually be reduced. Many times the special supervisor may make an entire community more conscious of the value of good eyesight.

Although supervisors must have as thorough a knowledge of eye conditions as is possible for the lay expert, they must necessarily depend upon the oculist for diagnoses and treatment; hence their fundamental training and experience should be educational rather than medical.

It has been proved that adequate supervision tends to reduce rather than to increase the cost of maintaining sight-saving classes.

#### STATE:

The responsibility for educational supervision is divided between the state and local authorities. This is especially true in states where sight-saving classes are subsidized from state funds. In this event the state naturally assumes the greater share of the responsibility for the correct development of the work. In Ohio, where sight-saving classes are given a rather substantial subsidy, the state department of education provides special part-time supervisors for the various classes throughout the state, except in cities where there is full-time supervision. Each class is visited at least five times during the school year by these special supervisors, and more often if unex-



pected difficulties make this necessary. The supervisors have frequent correspondence with the teachers, and may give advice in this manner which will obviate the necessity for a visit. The special supervisor acts with the local superintendent in the same capacity as would a local full-time supervisor, and should have frequent conferences with him concerning the success or failure of the local work. She also gives assistance to the superintendent in the preparation of the annual budget required by the state department of education.

All supervisors, whether city or part-time, are directly responsible to the state director of special classes for the maintenance of requirements made standard by the state.

Supervisors, both state and local, make the opportunity to speak to all teachers in the building, explaining the problems of the special class teacher and thereby securing the complete co-operation of the entire teaching corps. Opportunities are likewise sought to hold conferences with groups of principals, to the end that they may be constantly on the watch for suspicious eye cases and become aware of the obligation which is theirs to provide good working conditions for the children who have normal sight. Valuable contacts are gained through meeting with school and city nurses and other health groups.

## Classes in Smaller Communities

There are all over the United States, children with serious eye difficulties living in communities too small to support sight-saving classes. There are various ways of meeting such conditions: 1. The consolidated school may, in some instances, make the establishment of a class possible. 2. Children in communities near to cities having such classes may attend them. 3. Children needing the advantages of special education may be boarded in cities having these advantages to offer. 4. The sight-saving center, so placed geographically that it will serve a county, has been found practical. This makes it possible for children who are boarded to go home every week-end, and in many instances bus or traction lines make daily transportation possible. 5. In a county where transportation facilities are extremely poor, it might be possible to make arrangements to establish a class in the town where the county children's home is located. This would provide the necessary boarding facilities and supervision after school hours. Parents financially able

could pay for maintenance while the county would provide for indigent children.

### **Possibility of Mixed Classes**

In certain smaller cities not enough children will be found to justify the establishment of a special class devoted entirely to sight saving. There may be in the city, however, enough children with physical defects to warrant the establishment of a class which may include all such children; for example, such a class of ten physically defective children may be made up as follows: children with eye defects, 4; hard of hearing, 2; cripples, 4. It is imperative, of course, that the room should be correctly equipped for conserving vision. The teacher in charge would of necessity have to become skilled in such special methods as are necessary for the proper teaching of these different groups.

It is to be assumed that this type of class would be made available only when the special groupings could not be made.

### **The County Class**

States that have a law making it possible to board children in cities having classes, find the law is of comparatively little value, because of parental objection to the child's being away from home. The opposition is found more often when the vision is such that the child can attend the regular class, the parents in many instances not seeming to recognize the cost to already overtaxed eyes. Less difficulty is experienced in persuading parents to permit a child to attend a school located within the county limits.

Much co-operation is needed when a county class is anticipated. The first difficulty of finding the isolated case and getting a proper refraction is a serious one. More accurate enumeration of handicapped children will help to bring out the cases with visual defects.

Many states have a director of child accounting, whose duty is to administer the laws governing school attendance. He should be urged to provide in each community enumeration forms which have space for data on the number of children having poor sight.

A state provision for the examination of the eyes of all school children, faithfully carried out, would result in discovering the large majority of cases needing help.

The county health department and the county superintendent of

schools usually have available valuable records. The health department is often willing to make the initial survey. Teachers gladly add their efforts to induce parents to have examinations made.

The county having no oculist presents another problem. It is feasible to ask the state department of health to join with the local health group in working out a county clinic, similar to those provided in many states for crippled children and those of pre-school age. In this event, professional service of a high order is assured. Some local club is always willing to provide transportation to and from such clinic.

It may be well to describe somewhat in detail one county class which has been established and which meets a real need in Ottawa County, Ohio.\* The map on page 15 shows the general conditions under which this class was formed. It was established at Oak Harbor, a town with two thousand population, in preference to placing it in Port Clinton, the county seat, which has four thousand population, because geographically and from the transportation standpoint, Oak Harbor is more nearly the center of the county. Other conditions were also taken into consideration:

1. Oak Harbor schools are a part of the county school system, while Port Clinton is a special district. Since the majority of the children to be served are from the county, it seemed wise to keep the school under county jurisdiction.
2. The majority of the children live in the Oak Harbor district and west of it.
3. The Oak Harbor grades are housed in one building, while the Port Clinton grades are housed in three buildings.
4. The Oak Harbor Board of Education was not only willing but glad to have the class.

The children in this class are the product of American population, not of foreign or industrial conditions.

The attendance compares favorably with that of the regular classroom. The children have been weighed regularly and have continued to gain weight.

Because a number of children had to be transported, it seemed wise to reduce the expense by hiring one man to bring a group, in what is known as the "special bus." (This automobile also

\* The material on the Ottawa County Class was prepared by Alice Squires, County Nurse, Ottawa Co., Ohio, who did all the preliminary work for establishing this new type of sight-saving class. See page 15.

brings some children to the class for the deaf which is operated on the same plan.) The arrangement was made to accommodate the children who live at La Carne where there is no other means of transportation. The children from Gypsum and Port Clinton ride in this bus, first, to lessen the total cost, since the expense would be almost as great to transport the La Carne children as it would be to transport both the La Carne and Port Clinton children, and because the interurban schedule was changed so that the children would need to leave home too early in the morning. A boy at Marblehead, which is the most distant point, leaves home at seven A. M.

The number of pupils in the grades of the Ottawa County class is as follows:

1st grade—1	3rd grade—1	5th grade—3
2nd “ —2	4th “ —1	6th “ —1
	8th grade—1	

The teacher has an assistant who works for four hours each day. She helps the children in the preparation of their lessons by reading their assignments and preparing special maps and other material with which they can work.

## Rural Children

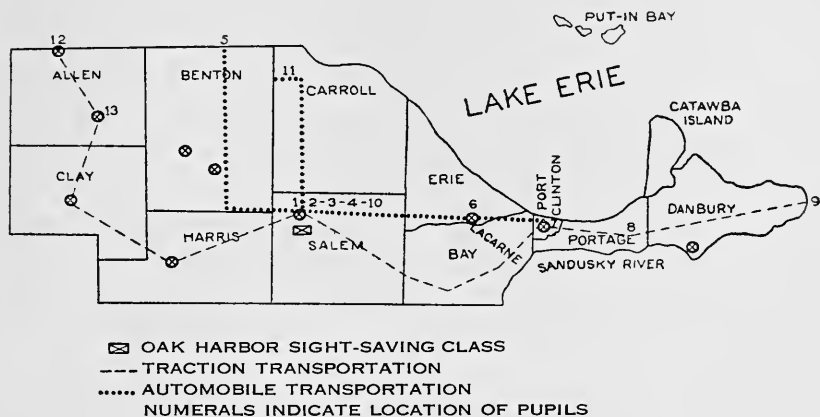
Rural children for whom none of the suggested arrangements can be made may derive some benefit from the large type books used in sight-saving classes. In one state, the legislature has appropriated a sum of money for a lending library of such books. The teacher of these children should make every effort to become as fully acquainted as possible with the proper educational methods of saving sight.\*

This does not approximate the ideal; it is merely better than the possibility of having the child increase his eye handicap by the use of small type, or in other ways which can be avoided by a teacher who has an understanding of right methods.

A state supervisor of sight-saving classes could assist individual teachers in meeting the problems of the child with seriously defective vision who cannot attend a special class.

\* Material which will be of some assistance to any teacher having in charge one or more children with seriously defective vision will be sent on application to the National Committee for the Prevention of Blindness, 370 Seventh Ave., New York, N. Y.

# Sight-Saving Class for a Rural Community—Ottawa County, Ohio\*



## Populations:

Ottawa County, approximately 22,000

Port Clinton, approximately 4,000

Oak Harbor, approximately 2,000

Pupils 1, 2, 3, 4 and 10 are residents of Oak Harbor.

Pupil 5 travels twelve miles each way by automobile with high school students attending Oak Harbor School.

Pupil 6 travels by local school bus to La Carne, then takes special school auto on into Oak Harbor School (ten miles each way).

Pupil 7 travels by special school bus, 12 miles each way. This pupil traveled by traction last year.

Pupil 8 travels by individual auto five miles to Pt. Clinton, then takes special school automobile to Oak Harbor in the morning and returns by traction at night because of car schedule.

Pupil 9 travels 22 miles by traction morning and afternoon. The Gypsum and Pt. Clinton children are traveling by auto, first, because the car schedule was changed so that they had to leave home too early; second, because one sight-saving class student and two deaf students live at La Carne where there is no way except by auto, so that the total cost is lowered by including the Pt. Clinton and Gypsum children.

Pupils 11, 12 and 13 are children who should attend the sight-saving class, but have so far refused to do so.

\* This map is furnished through the courtesy of Miss Alice Squires.

## The Teacher

The successful teacher of a sight-saving class must possess the essential qualifications of any successful teacher, a natural aptitude for teaching, the necessary fundamental training and a great deal of initiative.

No amount of specialized training can be offered as a substitute for any of these essentials. If, however, such teacher has had special training for this work, it will be very advantageous to herself and to her pupils.

For this specialized training no cut-and-dried rules can be laid down that will be applicable to all conditions. At the present time there are three methods: Educational institutions offering courses of preparation for this work; special reading to prepare teachers for certain required examinations; training given to the experienced grade teacher by the special supervisor. Whatever the state requirements may be, they should secure the selection of teachers who have an understanding of eye conditions and a fundamental knowledge of the problem of saving the residue of sight of each child in the class. The requirements should also be such as will result in the selection of teachers who have a wide interest in sight saving in their schools and communities.

### Certification of Teachers

It is desirable that state departments of education should formulate requirements for the special certification of sight-saving class teachers. Thus, New York State requires for sight-saving class teachers in addition to the qualifications for grade teachers, 60 hours of specialized pedagogic training, 30 hours of clinical eye work, and 30 hours of physical education.

### Courses for Training of Teachers

It is desirable that special courses be offered in educational institutions for the preparation of teachers of sight-saving classes.

Columbia University, Peabody College and the University of Cincinnati have offered courses during their summer sessions. New York University, the State Normal School of Ypsilanti, Michigan and the extension division of the Detroit Teachers College have offered courses during the regular school year. A course in Eye



USE OF TYPEWRITERS IN SIGHT-SAVING CLASSES\*

\* Picture secured from Atlanta, Georgia, sight-saving class.





Hygiene has been given by the Senior Teachers College of Western Reserve University and the Cleveland School of Education. The training course for workers with the blind given for several years past at Harvard University, has included some work for sight-saving class teachers.

Superintendents who contemplate the establishment of sight-saving classes usually select good teachers who have had at least two years of successful experience in grade teaching and arrange for them to attend classes for specialized training.\* A longer experience is desirable. Such superintendents are then more assured of having teachers familiar with the local situation and so trained that they may assume the responsibility of establishing and conducting successful classes.

In other instances, a superintendent establishing his first sight-saving class prefers to have a teacher who has already been successful in this specialized work. However, at the present time the supply of adequately trained teachers is far below the demand, hence superintendents contemplating the establishment of sight-saving classes should encourage teachers from their own corps to take special training.

## Methods of Conducting Sight-Saving Classes

In general, two methods of conducting sight-saving classes have been tried out in different localities with more or less successful results: 1. Co-operation. By this plan pupils take such part of their work as does not involve close use of the eyes with regular classes. 2. Segregation for all educational work.

The large majority of classes throughout the country are organized on the co-operation plan. As experience in the work gives greater opportunities for drawing possible conclusions, it would appear that if the sight-saving class child is to be a social asset, he must be socially educated. To segregate him may emphasize his handicap by depriving him of contact with normally sighted children of his own mental age and ability.

If the co-operation plan is used, the best results will be obtained through as close co-ordination of the sight-saving class with the

\* In considering this matter many superintendents have found that experience gained in a multi-grade rural school is especially valuable.

regular grade as conditions will permit. This arrangement will require the most careful attention to program making on the part of both the special teacher and the grade teacher in order to avoid duplication and confusion.\*

In any event, the emphasis should be placed on as much oral work as possible. The mechanics of reading, writing and arithmetic require close eye work, and should be most carefully supervised. As much of the written work as possible should be done on the black-board, emphasizing large muscular movements in place of cramped finger exercises.

The same difficulties that arise from attempting to educate blind children and children with defective vision in a school for the blind, will be found in attempting to educate these two groups in the same special class in the public schools. Any endeavor to give them the same specialized education, will be to the detriment of both groups.

## Responsibilities of Regular Grade Teachers

Whenever the co-operation plan is followed the regular teacher having sight-saving class pupils under her instruction must work closely with the special teacher and have some knowledge of her problems. Believing that an understanding of conditions will result in the desired co-operation, the State Department of Education of Ohio sends out the following announcement to regular teachers in a building where a new sight-saving center has been established:

To Teachers Who Have Pupils from Sight-Saving Classes Reciting in Their Classes:

Pupils in sight-saving classes are placed in special classes because of some eye trouble which makes it inadvisable, or impossible in some cases, to do school work in the same way or with the same tools as do children in regular classrooms. The teacher of the special class will be glad to confer with any classroom teacher as to the eye difficulty of the pupils who may be reciting in the class.

A sight-saving class pupil should:

1. Take the same part in oral recitations as does the child with normal vision.
2. Do no written work in the classroom unless permission has

\* See *Methods of Teaching Sight-Saving Classes*, pp. 11-14.

been given by the special teacher for the child to write from dictation, using sight-saving tools.

3. Never face the light, but work with the light coming over the left shoulder or from the back.
4. Never try to read from the blackboard unless standing directly in front of the board and at a proper distance.
5. Conduct himself in the same manner as do children of normal sight in the classroom.
6. Enter and leave classrooms with the least possible disturbance.
7. Give strict attention in the classroom.
8. Be kept informed of any changes in program, assignments, etc.
9. Be appreciative and helpful in his attitude toward teachers and pupils in his classroom.

## **Co-operation with the Home**

Home conditions greatly influence the welfare of children in the sight-saving class. If parents understand what the special classes are trying to accomplish especially in saving sight, they will be more ready to co-operate. Reciprocal visits do much to establish friendly relationships.

A teacher can hardly be expected to understand the environment of the child out of school hours unless she visits the home. Parents will have a much better understanding of what the educational system is trying to accomplish if they see the child actually at work.

## **The Visiting Teacher**

When the number of sight-saving classes in a community is large enough to justify the expenditure, it is desirable to have a special visiting teacher. The visiting teacher of sight-saving classes must have the fundamental training of any visiting teacher. In addition, she must have an understanding of the principles and problems of the sight-saving class in order to be able to interpret them in the home. Her visits do not take the place of the visits of the teacher of the class. They are more or less for the purpose of making arrangements and adjustments; whereas the visit of the class teacher is for gaining a better understanding of her pupil's problems through an appreciation of his home life. Where social conditions exist in the home that are to the detriment of the child in the sight-saving class, the visiting teacher or, in case there is none, the teacher of the sight-

saving class should make every effort to bring such to the attention of a reliable social agency.\*

## Size of Classes

The number of children in a sight-saving class is necessarily small because of two factors: The number of grades to be accommodated, and the individual educational problems arising from various eye conditions.

Where not more than four grades are represented, a teacher may successfully care for from ten to sixteen children. It is difficult for any teacher to carry more than four grades. In addition to the regular teaching requirements she has the responsibility of daily and hourly remembering that each child is suffering from eye difficulties which must be given constant and thorough care.

In small communities where there are few children requiring the advantages of a sight-saving class, the teacher has a very difficult task because of the many grades likely to be represented. The class should be correspondingly small. In larger communities where the number of children warrants more than one class, it is wise to place the children in groups representing three or four grades, even if this arrangement necessitates considerable traveling on the part of some of them.

## Length of School Day

In some cities it has been found advisable to lengthen somewhat the usual school day, either by beginning earlier or by shortening the noon hour. This is done in order that the children may have no home work to prepare, that they may have periods in which to rest their eyes, and that the extra time often needed by sight-saving class children to cover a given amount of work may be available.

## Costs

The costs of a sight-saving class may vary according to local conditions. It is therefore impossible to give a detailed budget which would be satisfactory to different communities. In general, it may be said that a school system would be justified in establishing

\* A comprehensive statement of the duties of a visiting teacher in sight-saving work has been prepared by the Department of Sight Saving and Braille Classes in the Cleveland Public Schools.





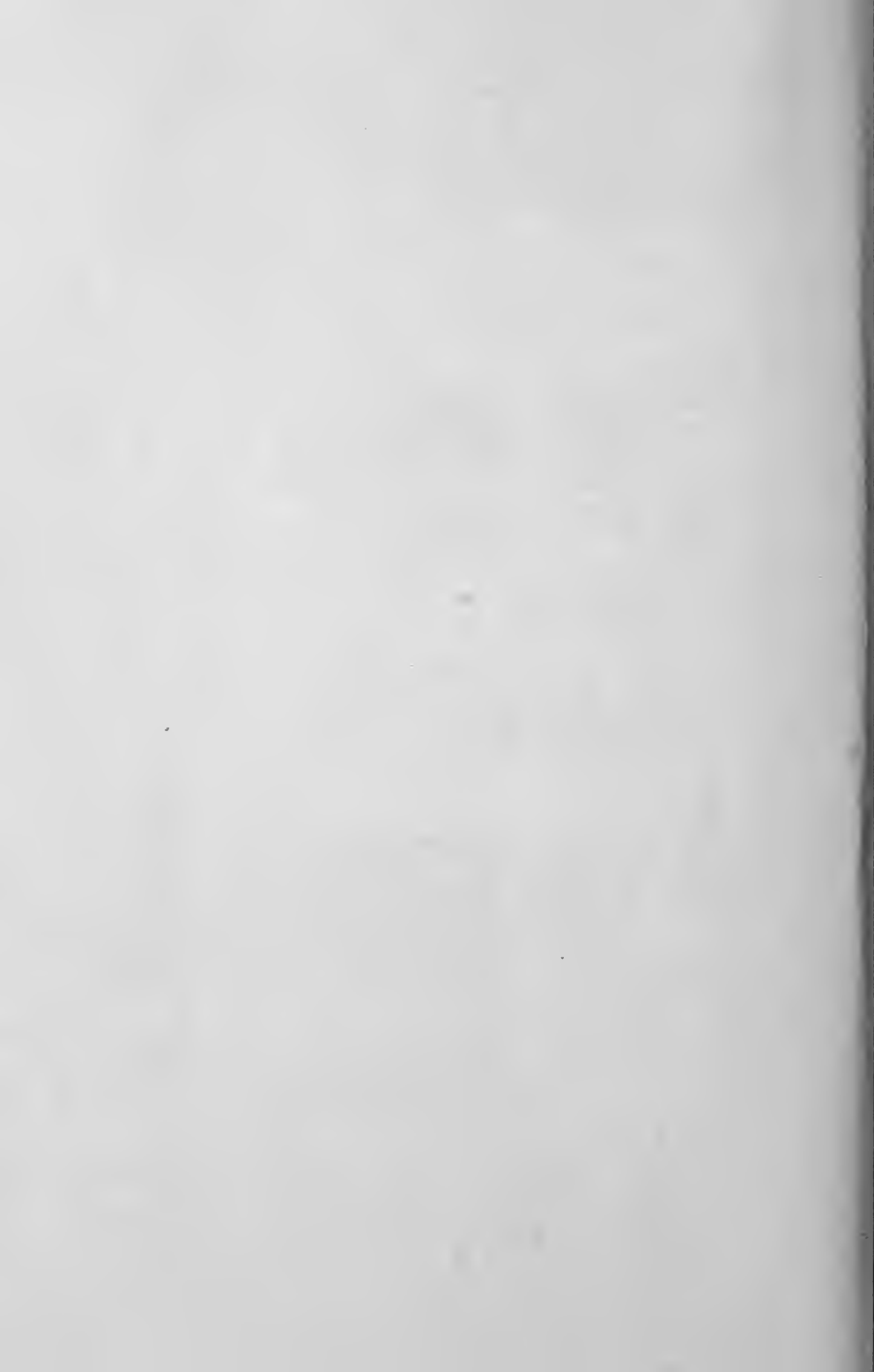
EXCELLENT TYPE OF DESK FOR USE IN SIGHT-SAVING CLASSES\*

\* Address of manufacturer may be secured upon application to the National Committee for the Prevention of Blindness.



EXCELLENT TYPE OF DESK FOR USE IN SIGHT-SAVING CLASSES\*

\*Address of manufacturer may be secured upon application to the National Committee for the Prevention of Blindness.





a sight-saving class with \$3,000 available for the first year's work. This would be divided somewhat as follows:

Teacher's salary (approximately).....	\$2,000.00
Furniture and equipment (including movable desks, children's lunch table).....	250.00
Clear type text books.....	300.00
Maps, globes, typewriter, window-shades.....	200.00
Incidental expenses, including possible carfare, lunches, etc.	250.00

It is assumed in this estimate of costs that the lighting, the cost of the teacher's desk, and the decoration of the room, are to be charged against general maintenance.

The budget for succeeding years may be somewhat less than the above, although in all probability the furniture and equipment will have to be added to from time to time in the early stages of the work.

## Placement in Sight-Saving Classes

### Differentiated Classes

There is a tendency to further specialized education in sight-saving classes as evidenced by the establishment of classes for myopes separate from classes for children with other serious eye conditions. Myopia (nearsightedness) may be actually or potentially progressive. Where pathological conditions exist, it may be essential that the child undertake no close eye work and that instruction be entirely oral.

Children suffering from static eye conditions may do a considerable amount of close eye work without harm to their eyes and may be able to read smaller type than the present accepted 24 point. In such cases it is not primarily the question of saving sight as with the myope but rather of making education possible through specialized methods. This arrangement permits a larger group of children to be cared for in a class composed solely of static cases than would be otherwise possible.

### The Problem of the Mentally Subnormal Child Suffering from Defective Vision

The placement of a child having more than one handicap should be determined by the greater handicap. Mental deficiency is unquestionably more serious than the physical handicap of defective vision; hence, a child suffering from both should undoubtedly be placed in a

class for the mentally subnormal and there be given all advantages possible for saving sight. To place mentally defective children in sight-saving classes is as unfair to them as it is to their classmates and to the teachers. Not only are the methods of education different in the two types of classes, but, whereas the educational segregation of the mentally subnormal child may be desirable, it is considered disadvantageous to the child with defective vision as his only handicap.

In large communities where there may be a sufficient number of children suffering from both these defects a special class may be established for mentally subnormal children having defective vision.

### **Communicable Eye Diseases**

The problem of dealing with communicable eye diseases must be solved in the same manner in which the problem of any other communicable disease is treated—exclusion of the child from school. However, where, in any community, there are enough children suffering from a communicable eye disease to warrant the establishment of a special class for them, the problem may be solved in this manner.

### **Financial Support of Sight-Saving Classes**

Since the state in making education compulsory includes children with seriously defective vision, it should assist in providing a type of instruction which these children can assimilate. Ohio was the first state to recognize its responsibility in this particular.

In 1913 the Legislature passed a bill allowing \$250 a year for each child coming under the provisions of this specialized education; the amount has since been considerably increased. The 1919 session of the Minnesota Legislature passed a similar bill allowing \$200 per capita, which is now increased to \$250. Massachusetts assumed its responsibility by appropriating the sum of \$10,000 annually, now increased to \$15,000, for the establishment and use of sight-saving classes. New York State pays half of the teacher's salary, provided this does not exceed \$1,000.\*

Any state furnishing money for the promotion of these classes should reserve to itself some form of regulation, neither paternalistic nor oppressive, but rather in the nature of a partnership with the

\* See Appendix A for a summary of state laws and regulations.

community, in which each will bear its just share of responsibility. It would seem unwise to write detailed requirements into any law providing for sight-saving classes. Authority to set standards should be vested in the state department of education.

In many instances it is necessary for the local community to demonstrate the necessity for these classes before the state is willing to assume any responsibility in regard to their financial support.

Early legislation provided for the children in these classes as blind children, a term unfair to both types of children, since it tended to confuse two different methods of education. Later legislative action makes provision for them as partially sighted children, or includes them under provisions made for the education of physically handicapped children.

An additional annual compensation of from \$100 to \$300 is usually paid to the sight-saving class teacher who has had special training.

## The Sight-Saving Classroom and its Equipment\*

### Selection of Room

Since sight-saving classes are not required in all school buildings, a centrally located building should be selected convenient to car lines. If a modern building is available with up-to-date lighting conditions and equipment, the expense of establishing the class will be considerably lowered.

In selecting a room, two essentials must be considered: Ample space and a maximum of light without glare.† The ideal classroom for children with defective vision is a large, well-ventilated room providing ample space for the children to move about and to place their seats and desks in a position enabling them to secure the best light.

Recent experimental tests carried on at Peabody College over an extended period indicate that east or west exposures prove most satisfactory since they combine a maximum of light with a minimum of

\* The National Committee for the Prevention of Blindness cannot advertise any article, but will on request give addresses for obtaining material that has been found satisfactory in sight-saving classes.

† *The Code of Lighting School Buildings*, published by the Illuminating Engineering Society, 29 West 39th St., New York; *Lighting the School Room*, published by the National Committee for the Prevention of Blindness, 370 7th Ave., New York; and *School Lighting as a Factor in Conserving Light*, published by the Eyesight Conservation Council of America, Times Building, Times Square, New York.

glare, two very important factors in any classroom. A northeast exposure will give the advantage of the morning sun and a steady, well diffused north light very comforting to sick eyes.

In any event, southern exposures should be avoided, since the constantly changing light may be very trying to these children and too much of the teacher's attention must be given to shade adjustment.

Unilateral lighting is recommended, but if this is not available windows should be on adjacent sides of the room to the left and rear of the pupils.

Glass window space should equal at least one-fifth, preferably one-fourth of the floor area. Windows should be at least three feet from the floor and the glass area should reach within six inches of the ceiling, since the best light comes from above. It is important that there shall be no glare due to reflected light from adjacent buildings.

Light buff walls, and white or light cream ceilings in flat finish will give good reflective values without causing glare.\* Medium colored woodwork in dull finish will be found most satisfactory.

## **Window Shades**

The selection of window shades is important. Their purpose is to control natural illumination by securing reasonable uniformity, eliminating glare and diffusing direct sunlight. The best results may be obtained in one of two ways. Each window may be equipped with two shades operated on double rollers placed near the center, thus permitting them to be raised or lowered from the middle without interfering with ventilation. In this case, care must be taken in adjustment so that there will be no space between the two rollers to permit a shaft of sunlight, very trying to the eyes, to enter. A single shade may be used that can be adjusted to any part of the window. Shades must be wide enough so that there will be no shafts of light from either side. Shades of a buff or grayish color in a dull-finished translucent material will transmit and diffuse light. Excellent devices of both these types of shades are now obtainable.

## **Artificial Light**

Artificial light is as important as natural light. It is essential that

\* A starch finish on ceilings has been found to produce a dull surface and to make cleaning a simple matter.



THE SILENT READING LESSON. NOTE WRITING ON THE BLACKBOARDS\*

\* Picture secured from an Ohio sight-saving class.



every sight-saving classroom be equipped with artificial light; that the teacher know when to use it and that she actually does use it to supplement or to take the place of natural light. The chief points to be considered, as in the case of natural lighting, are adequate light and avoidance of glare. To these essentials of natural lighting must be added a consideration of maintenance and efficiency.

Experience in sight-saving classes indicates as most satisfactory, a system of artificial lighting using totally enclosing translucent globes of low brilliance, especially where there is a great deal of dust and smoke.

## **Blackboards**

Good slate board has proved most satisfactory. Since children in sight-saving classes do such a large part of their eye work at the blackboard, the space should be as liberal as possible. Blackboards should be so placed as to avoid glare.

## **Equipment for Serving Hot Lunches**

In school buildings where there are no arrangements for serving a hot lunch, sight-saving classrooms should be equipped with an electric plate, a sink with running water and a supply of cooking utensils, a list of which is given in Appendix B.

## **Physical Equipment**

**SEATS AND DESKS:** Seats that are adjustable and of correct size and desks that will lift to an angle will make it possible for the children to be comfortable at their work. They will also help to conserve sight through good posture and avoidance of congestion of the eyes which is often caused, especially in cases of progressive nearsightedness, by bending over a flat desk. Care should be taken to see that desks, as well as all other equipment for a sight-saving class, are ordered in dull finish.

**TABLES AND CHAIRS:** One table about ten feet by three feet, or two smaller tables with chairs for general use and for serving the lunch family style, should be included. For classes with small children, one kindergarten table with chairs is desirable. All tables should be ordered in dull finish, with drawers on both sides.

**CUPBOARDS:** Adequate cupboard space is of unusual importance in a sight-saving classroom since much of the material is of a larger

size than that used in the regular grades. Additional space should be provided to care for cooking utensils and supplies, if there is no lunch room in the building.

**SAND TABLE:** A sand table has been found so useful in sight-saving classes that in many places it has come to be included as a part of the essential equipment.

**BOOKS:\*** Great care must be taken in the selection of all material used for such reading as may be done by the pupil.

Experiments with various kinds and sizes of type appear to indicate that a 24-point clear type is best for the majority of children suffering from defective vision. The printing is done in black ink on dull finished, cream colored paper. These books are more expensive than the ordinary textbook partly because of the limited demand. As the number of sight-saving classes increases, the cost of texts will probably be lower and a larger variety will doubtless be printed. This will curtail the work of the special teacher in preparing material and permit her to teach a larger number of children.

**BOOK RACKS:** Since the clear type books are much larger than ordinary texts, they are somewhat awkward for the smaller children to handle. Adjustable racks are often furnished to hold them in correct position.

**TYPEWRITING EQUIPMENT:** There should be at least one typewriter of standard make in every sight-saving class in which there are children above the fourth grade. Whenever possible, typewriters in dull finish should be provided, thus preventing glare from reflected light. Typewriters should be equipped with a silence pad and blank keys or shields.

A regular typewriter table should be provided. A copyholder which will place the copy directly in front of the pupil is essential. This should never be attached to the typewriter. Music racks may be used to advantage and excellent copy holders may be made in the manual training department. A good standard book on typewriting should be provided for the teacher. There are now on the market typewriters in double case bulletin type. If funds will permit, one should be provided for the class.

\* List of books in 24 point type may be obtained from the Clear Type Publishing Co., 36 Elston Road, Montclair, New Jersey; Houghton Mifflin Co., Boston, Mass.; Doubleday Page & Co., Garden City, Long Island, New York.; Blackie & Son, London, England.; Oxford University Press, London, England.





EXCELLENT USE OF SAND TABLES AND POSTERS\*

\* Picture secured from an Ohio sight-saving class.



**MAPS, GLOBES, CHARTS:\*** Maps furnished for sight-saving classes should be in strong outline and without detail. Several firms are now manufacturing excellent outline maps; others will be glad to omit names and other details if requested to do so.

Reading, phonetic, and arithmetic charts used in the primary grades are as a rule sufficiently clear for sight-saving class children, provided they are permitted to go close enough to be sure of seeing them without eyestrain.

**PAPER:** A slightly rough unglazed manila paper in sheets 9 x 12 inches has been found practical. If the paper is ruled, green lines have usually been found to be more acceptable than black. Lines, if used, should be about one inch apart.

**PENCILS, CRAYON:** Pencils with soft, thick, heavy lead making a broad clear line are best adapted for the use of these children. A large size pencil sharpener is necessary for these pencils.

Crayon used in the ordinary classroom is too hard. Any soft white chalk which makes a broad, even line is satisfactory.

**PENS, INK:** Pens that will make a broad, heavy, even line should be provided for written work. The school ink is often found too thin and it may be mixed with India ink provided the two do not neutralize each other.

## **Material for Motivated Hand Work**

Only such hand work is desirable as can be correlated with the regular work of the class. Clay, plasticine, material for sand-table use, and other forms of hand work that may be motivated, should be provided for the teacher. This enables her to satisfy the desire of the child in the sight-saving class for this type of work and to stimulate his creative instinct.

It is sometimes desirable to have a small sum of money which may be spent by the teacher for materials not usually included in supplies furnished regular classes. These materials are for such forms of hand work as are approved for sight-saving classes.

\* For a detailed account of materials used in the sight-saving class see: *Methods of Teaching Sight-Saving Classes*, Estella Lawes; *Sight-Saving Classes*, Cleveland Public Schools, Helen J. Coffin and Olive S. Peck.

## Returning Sight-Saving Class Pupils to the Regular Grade

With the special ocular and general physical care accorded children in sight-saving classes, it is not infrequent that the improvement in eye condition is great enough to enable the child to return to the regular grade. Percentages of such returns differ in the various communities; no estimates of any value can be reached under the present differences in schedules for entrance to these classes.

The fact that a certain proportion, however small, may be returned with safety to continue regular work would seem sufficient warrant for keeping children up to academic standards and for using the non-segregation plan of education.

## Transportation

In many instances it is necessary for children to travel some distance to reach the sight-saving class. In the case of young children, an older brother or sister may be transferred from his own district to the same school in order to accompany the child. Should no member of the child's family be able to do this, arrangements may be made by the parents in co-operation with the teacher for an older boy or girl in the neighborhood to accompany the child.

In some cities, carfare for the child and his guide, and the amount for guide service, where this is necessary, are paid by the board of education, in others, the board assumes only the responsibility for the carfare.

## Sight-Saving Classes in School Systems\*

### What are Sight-Saving Classes?

Classes established in public and private school systems for the education of children who, because of seriously defective vision, cannot be profitably educated in the regular grade.

### Why Should not such Children be Educated in Schools and Classes for the Blind?

The two systems of education are different: for blind children,

\* Reprinted from *Methods of Teaching Sight-saving Classes*, Estella Lawes. Published by the National Committee for the Prevention of Blindness, 1926.

the chief avenue of educational approach is tactile; for sighted children, it is visual.

### **How are Sight-Saving Classes Valuable?**

They are valuable to:

1. *Handicapped children:* by giving educational advantages to children with seriously defective vision while saving their sight.
2. *Normally sighted children:* by relieving the grade teacher of the necessity for devoting a disproportionate amount of time to handicapped children.
3. *The educational system:* by relieving the system of those repeaters who have failed to make their grade because of defective vision.
4. *The state:* by investing in children who will become an asset rather than a liability to the community.

### **What Children are Candidates for Sight-Saving Classes?**

In general children whose vision ranges between 20/200 and 20/70, together with children suffering from progressive eye troubles.

### **Where may Suggestive Guides be Obtained?**

The National Committee for the Prevention of Blindness, 370 Seventh Avenue, New York, will furnish on request tentative guides now used in various cities.

### **How Much Eye Work are Sight-Saving Class Children Permitted to do?**

The amount is determined by the oculist in relation to the eye difficulty from which the child is suffering. Oral instruction is emphasized.

### **What Proportion of Children Require this Specialized Form of Education?**

Limited experience would seem to indicate about one child in every five hundred of the school population.

## **How Many Children may be Profitably Educated in a Sight-Saving Class?**

The number of children depends chiefly upon the number of grades represented. Where there are not more than three grades in a class, sixteen children may be cared for. An increase in the number of grades requires a corresponding decrease in the number of pupils.

## **What are the Essential Physical Arrangements of a Sight-Saving Classroom?**

Adequate lighting, natural and artificial, without glare; dull, matt surface on walls, woodwork, desk tops, blackboards, paper, etc.

## **What Special Equipment is Necessary?**

Movable, adjustable seats, adjustable desks, tables and chairs, typewriter and stands, clear-type books, unglazed paper, educational models, charts, special mats, special globes, adequate cupboards for large size books, paper, etc., equipment for motivated handwork.

## **What is the Generally Accepted Method of Conducting Sight-Saving Classes?**

The work is co-ordinated with that of the regular grade. Work requiring close use of the eyes is done in the special class under the guidance of the special teacher, the use of the eyes being prescribed by an oculist in consultation with the supervisor. Oral work, gymnasium exercises, rote singing, etc., may be taken in the regular grade.

## **How are Sight-Saving Classes Financed?**

Since the state makes education compulsory, it should be responsible for its share of the financial burden. Appropriations should be made for the education of physically handicapped children in accordance with the educational laws of the state. Appropriations may be withheld when standard requirements are not met.

Experience has shown that it is sometimes difficult to obtain financial assistance from the state until the need of sight-saving

classes has been established by the local community. In some instances state subsidies providing for other types of classes may, without special legislation, be extended to communities maintaining sight-saving classes.

### **How May Further Details and Assistance Regarding Sight-Saving Classes be Obtained?**

The National Committee for the Prevention of Blindness, believing that sight-saving classes are among the most important ways of conserving sight and preventing blindness, offers its service, and where necessary, will send a member of its staff experienced in this work to any community for legislative or educational work looking to the establishment of such classes.

## APPENDIX A: LEGISLATION

*Prepared by*

LEWIS H. CARRIS

Managing Director, National Committee for the  
Prevention of Blindness

The following pages give a summary of the provisions in the state school laws under which sight-saving classes may be organized. In certain states it has seemed best to give the entire law—especially where the law represents fairly well a particular type of legislation.

### Types of Legislation

There are three general types of legislation:

a. Providing assistance to classes where the pupils are classified as blind; under this provision those with partial sight or very poor vision are classified for the purpose under the provisions of the law as blind children, although in fact they are not blind. It is in accordance with this classification that state aid is extended to cities supporting such classes in Illinois and Minnesota.

b. Where there is special legislation for children with very defective vision; legislation of this type is in effect in Michigan.

c. Legislation providing state aid for all pupils who have physical defects of such a nature that they cannot take work with profit in the regular school classes; under this general legislation classes may be organized for children with defective vision and also for crippled children and for deaf children. Legislation of this type exists in Connecticut, New York, Pennsylvania, and Wisconsin.

The question as to what type of legislation of the three referred to should be chosen, must be settled by the state, after taking into consideration the general condition of education and the type of classes already organized.

### Character and Amount of State Aid

With reference to the character and amount of state aid extended to these classes, there are four general types;

a. A flat sum, per capita, to be distributed to the districts maintaining classes. For example, Minnesota and Ohio; Minnesota pays \$300 for each child enrolled, and Ohio may pay as high as \$375. It is the opinion that both of these amounts are rather



large. In Ohio the full sum is not distributed, the sum being determined at the discretion of the state director of education.

b. The appropriation of a lump sum to the state board of education to be distributed on an equable basis to the various districts maintaining sight-saving classes; an example of this kind is Massachusetts where the state board of education has a sum of \$15,000 for distribution.

c. The reimbursement to districts maintaining such classes for the cost of instruction in excess of instructing the pupils in the regular grades. In this case usually the maximum is set, as for example in Michigan at \$200.

d. A lump sum to be paid as a teacher's quota to districts maintaining such classes, as for example in New York State, a sum equal to one-half the salary paid to each teacher, but not to exceed \$1,000.

## Permissive and Mandatory Laws

There are two types of legislation with reference to the organization of these classes:

a. Permissive, which leaves the judgment as to the establishment of such classes to the local board of education.

b. The mandatory type, which requires the district to establish a sight-saving class wherever there is the minimum number of pupils with such defective vision; in general, no state so far has enforced mandatory provisions.

### Alabama

General law will permit local administration of special classes for those who are in need of such in any practical phase or type of education.

### Arizona

1. No educational law, permissive or mandatory, providing for the establishment of special classes.

2. No regulations under which special classes can be established.

### Arkansas

1. No educational law, permissive or mandatory, providing for the establishment of special classes.

2. No regulations under which special classes can be established.

## California

Section 1618 of School Law: Separate classes may be provided for (a) the deaf; (b) the blind; (c) crippled children. The school law does not specifically provide for sight-saving classes as such. However, the law has not been so strictly interpreted as to distinguish between pupils who are totally devoid of light and those who have a small percentage of vision. Local authorities determine what pupils should be assigned to the so-called classes for the deaf, classes for the blind, and classes for crippled children. For each class of nine, or fraction of such number, not less than five, attending such classes, the state sets aside one teacher unit.

Special certification is granted by the State Department of Education for teachers of special classes. In most instances local communities have required specially prepared teachers for this work.

## Colorado

1. No special law providing for sight-saving classes.
2. Nothing in the law which would prevent the organization of such classes.

## Connecticut

Chapter 355 of the Public Acts of 1921: This law encourages special educational provisions for children below standard, physically or mentally, and (1) provides for a state director; (2) that the State Board shall make regulations; (3) ages over four and under 16; (4) any district or combination of two or more districts may provide a class.

The State Board of Education interprets "educational exceptional" children to include children of seriously defective vision who are not blind. A class may be organized for the purpose of caring for all types of exceptional children in one room. No state aid of any type is at present available.

The state has not set up certification requirements for teachers in any type of special class, except those for backward and defective children, the deaf and the blind.

## Delaware

1. No provision for sight-saving classes.
2. No state regulations providing for the establishment of special classes.

## **District of Columbia**

Sight-saving classes may be established under Section 11 of Chapter 13 of the Rules of the Board of Education. "Any pupil with serious mental or physical defects may also be segregated in special classes after appropriate examination of such pupil."

## **Florida**

No special law. However, it is believed that classes might be maintained for pupils whose vision is defective, under the provisions of the twelfth paragraph of Section 64 of the school laws, which provides that "Boards of Public Instruction may perform all acts reasonable and necessary for the promotion of the educational interests of the county and the general diffusion of knowledge among the citizens."

## **Georgia**

No law providing for the establishment of special classes. However, classes may be organized under the general law. No state regulations.

## **Idaho**

No state law. Nothing to prohibit school districts from organizing and establishing special classes, making expenditures from school funds.

## **Illinois**

District may establish classes (1) for crippled children; (2) for deaf children.

The law provides that defective vision shall not be considered a crippling factor.

For crippled children the state pays maintenance above average cost not to exceed \$300 per capita.

Districts also may establish classes for deaf and dumb and blind pupils under the act of June 2, 1911, page 141, School Laws.

For deaf children, teachers must have had one year's instruction in methods of teaching the deaf. State pays maintenance above the average cost not to exceed \$110 per capita for deaf, and \$160 per capita for the blind.

All classes and schools are subject to supervision by the Department of Public Instruction.

## **Indiana**

No state law for special classes.

## **Iowa**

No state law for special classes, and no rules and regulations.

Section 4427 of the Code of Iowa, 1924, provides that "children over seven and under 19 years of age who are so deaf or blind as to be unable to obtain an education in the common schools shall be sent to the proper state school therefor, unless exempted, and any person having such a child under his control or custody shall see that such child attends such school during the scholastic year."

## **Kansas**

No state law providing for the establishment of special classes.

## **Kentucky**

Special state law providing for sight-saving classes.

It is to be noted that it does not provide state aid.

1. The board of education of any city in this Commonwealth and the board of education of any county and the board of trustees of any independent graded school district are hereby authorized to provide for the instruction and education of children of proper school age who, by reason of defective eyesight, require special books or special instruction, or both in order profitably and safely to attend the public schools in such city or county or district.

2. The boards of education of such cities, counties, and districts, for the purpose of giving instruction to children having such defective eyesight, are authorized to provide for and direct the teachers in the several schools thereof, as said boards may deem proper, to establish and maintain classes for the instruction and education of such pupils having defective eyesight; and if such classes are so established, the said boards of education of said cities, counties, and districts shall be authorized to purchase and acquire such special equipment and books as may be proper and necessary for the use and instruction of such pupils on account of their defective eyesight; and such special books may be purchased and provided by said boards, or may be recommended to the parents of such children for purchase and for the use of such children, although said books may

not be included in the list of books selected for other children by Text Book Commission, or by board of education, or by board of trustees.

3. Pupils with such defective eyesight, as above mentioned, for whom special books may be provided or recommended, shall not be required to purchase or use the books adopted for general use for the other pupils, unless such books as have been adopted for general use may be used by the pupils with defective eyesight, without injury thereto; and the instruction of such pupils with defective eyesight may be so arranged that instruction can be given to them separately, or in connection with other classes, as may be deemed proper and best.

4. The board of education of any city or of any county or of any district, as hereinbefore mentioned, shall not undertake to provide for the instruction of pupils with defective eyesight and to purchase therefor, except by permission and in pursuance of the advice and authority of the State Superintendent of Public Instruction; and such Superintendent of Public Instruction shall give such advice and permission as he may deem proper for such purposes, and shall prepare and distribute information to the different boards of education of said cities, counties, and districts concerning the improved methods of such instruction, and the qualifications of teachers for such classes; and such Superintendent may require annual reports from such boards as shall have caused classes and instruction to be provided for such pupils; and said Superintendent may designate one or more of his assistants to supervise the classes of instruction of children with defective eyesight, as herein provided for.

5. Any board of education of any city, county, or district, as herein provided for, may collect and expend such funds as may be proper and suitable for such instruction for children of defective eyesight, and for the purchase of equipment and books, as provided for in this act in the same manner as funds are raised and expended for the maintenance of other school activities.

6. Nothing in this act shall be so construed as to annul any law or regulation that may preclude from attendance upon the schools children afflicted with communicable eye diseases.

7. This act shall take effect from and after its passage and approval, as provided by law.

## **Louisiana**

1. No special laws for the establishment of sight-saving classes.
2. Classes may be organized under general school laws.

## **Maine**

1. No special laws providing for special classes.
2. Any town may establish such a system if so desired.

## **Maryland**

1. No law and no regulations.

## **Massachusetts**

Law provides special classes for (1) mentally retarded children; (2) deaf children; (3) children with defective vision; Chapter 69, General Laws.

These classes for defective vision are under the supervision of the Division for the Blind of the State Department of Education.

“Under the direction of the Director, there may be expended annually certain sums, as the General Court (State Legislature) may appropriate to provide Sight-Saving Classes for children certified by any reputable oculist as fit subjects for instruction therein. With the approval of the Director, local school committees may organize and conduct such classes.”

Under the provisions of this act, the Division of the Blind reimburses the city maintaining such a class in the amount of \$500 annually for each class. The first year a class is started, the Division provides them with an initial equipment and books to the amount of \$250. The appropriation for the current year is \$14,000.

## **Michigan**

Laws providing special classes for crippled children, for the deaf, and for children with defective vision.

Under the law, the Board of Education of any school district may, upon the petition of parents or guardians of five or more resident children between the ages of three and twenty years who, by reason of being blind or having defective vision, or who by reason of being deaf or having defective hearing, cannot profitably or safely be educated with the other classes in the public schools of such district, establish and maintain within the limits of the district, one or more day schools or classes for the instruction of such children.

Courses of study, adequacy of methods of instruction, qualifications of teachers, the conditions under which teachers are employed,

and the necessary equipment and any special services for such children for any school year must comply with the requirements prescribed by the superintendent of public instruction.

“The total amount per pupil paid to any one school district for the purpose herein provided shall not exceed the difference between the average per capita cost of instruction and equipment for the other children in the first eight grades of said school district and the average per capita cost required to pay teachers’ wages and the cost of the necessary special school equipment to educate the children enrolled in the classes established for those children who may be included within the provisions of this act. In no case shall the amount paid exceed *two hundred dollars* for each child instructed in said school district during the school year, and a part of such sum proportionate to the time of instruction of any pupil so instructed less than the number of months prescribed for the school district for the year.”

## Minnesota

Sight-saving classes are organized under Chapter 188 of the School Law, which provides for classes for the blind. The minimum number of children required for a class is five. It is mandatory upon school districts to establish classes if parents or guardians of eight blind children ask for a class. Under this act any child having such defective vision that he cannot pursue the regular school work with profit is enrolled in the special class.

The state pays to the local district \$300 for each blind child enrolled in the day school classes. This is distributed according to pro rata attendance. This is over and above the amount of state aid given to each district on behalf of every child enrolled. This is not a definite per capita distribution, but depends upon the amount of income from school lands and other properties held in trust for the schools by the state. It usually amounts to something like \$6 per pupil.

Minnesota also has special classes for children with defective speech, for those who are mentally subnormal, for the deaf, and for the crippled.

The rules of the State Board of Education require that special class teachers be qualified to teach regular grade work in the State of Minnesota and in addition have taken at least six quarter credits of special training for the kind of teaching they are to do. They

must also have had at least two years of successful teaching experience. This qualifies for a one-year special certificate. For the five-year renewal six credits of additional training must be taken. No certificates are renewed for more than five years at a time.

Sight-saving class teachers have not been held strictly to the requirement of six credits of special training for the one-year certificate because of the fact that no college in Minnesota or near it has been giving a definite course in sight-saving work. Therefore such certificates are renewed from year to year on recommendation of the supervisor on a basis of individual study on the part of the teacher under the direction of the supervisor.

## **Mississippi**

1. No law for special classes.
2. Nothing in the law that will prevent a school from establishing a special class for sight saving.

## **Missouri**

*Section 11147* of the School Law provides for the establishment of classes for (1) the blind; (2) the deaf; (3) the crippled; (4) the feeble-minded. Classes must consist of ten or more children, and instruction must be provided for each special class. Transportation must be provided.

Instruction must be adapted to varying physical and mental handicaps, and must be of elementary grades. The instruction must be provided under the regulations of the State Department of Education.

Each Board must ascertain annually the number of children in a district who belong to any type.

*Section 11148.* Special classes may be organized by a union of two or more districts; classes to be conducted by one district, contracts made by others. Such classes may be organized only when pupils cannot be provided for in state institutions.

*Section 11149.* Provides that the State Superintendent shall inspect and approve all special classes, and that each district shall receive state aid to the amount of \$750 for each teacher; also, teachers must be especially trained for the work, and state aid is not to exceed two-thirds of the salary paid to the teacher.

The State Superintendent shall require reports from each district maintaining special classes and may set aside state school funds in



August for the purpose of reimbursing districts maintaining classes.

*Section 11150.* Provides that the State Board of Charities may provide training for children classified in Sections 11147 to 11149, and that the State Board of Charities may provide transportation in certain cases.

*Section 11150-a.* Provides special instruction for speech defects when there are fifty or more children, but does not require segregation into classes.

*Section 11150-b.* Provides for borderline defects.

No special provision is made for sight-saving classes, but classes may be organized.

## **Montana**

1. No laws providing for establishment of special classes.
2. Nothing in laws to prevent a school district from establishing special classes.

## **Nebraska**

1. Special classes for the deaf only.
2. There is nothing in the law which would prohibit local school boards from organizing and maintaining sight-saving classes.

## **Nevada**

Defectives are cared for by a state fund in institutions in California or Utah.

No state law providing for special classes, and State Superintendent writes that probably they could not be cared for in neighboring states.

## **New Hampshire**

No special laws authorizing districts to establish special classes, but there is no law which prevents the establishment in any school district of a special class for children with defective vision.

## **New Jersey**

Section 191 of the School Law provides for the instruction of blind children, by authorizing the establishment of special classes by

local school districts; the establishment of such classes is *compulsory*, however, only when there are five or more eligible children. It is the opinion of the State Commissioner of Education that it is not necessary for children to be totally blind to be placed in classes for the blind.

Teachers of such classes may be considered special teachers and receive an apportionment from the County Superintendent of \$500. In addition, the district receives approximately eight cents per day based upon the actual number of days attended.

## **New Mexico**

No special classes.

The State Department of Education is of the opinion that the school law gives the local school district sufficient authority to organize special classes. However, there is a limiting provision in the code requiring that the State Budget Auditor approve budgets for all school purposes. In other words, budgets which are made would have to make definite provisions for such expenditures before local districts would have any authority to make them.

## **New York**

“If the board of education of a city or union free school district establishes one or more special classes for the instruction of deaf, blind, crippled, or otherwise physically defective children, as provided in this article, and shall employ one or more teachers for the instruction thereof, the Commissioner of Education shall apportion to such city or district in the same manner as teachers’ quotas are apportioned thereto, an amount equal to one-half of the salary paid to each of such teachers, but not to exceed one thousand dollars (\$1,000) for each teacher so employed. No such apportionment shall be made on account of a teacher so employed unless there shall have been issued to such teacher by the Commissioner of Education a certificate authorizing such teacher to teach such special classes or unless such teacher shall possess the qualifications prescribed by the Commissioner of Education.”

In New York City the teachers must meet the following conditions:

“In order to secure the best teachers for these children the eligibility requirements have been established as follows:

- (1) Three years’ experience in teaching.

- (2) Completion of courses dealing with the problems of educating the various types of handicapped children, amounting to at least

120 hours..... { 60 hours Methods  
30 hours Clinical Experience  
30 hours Specialized Physical Training

"Teachers who are eligible for the license must pass a written and an oral examination.

"As this license implies a promotion both in salary and possibly in rank the Board of Examiners feels that it is necessary to demand a high standard of record and teaching ability from those who seek to obtain the license.

"There have been certain difficulties in meeting the above requirements. Teachers wishing to qualify for the licenses have not always been able to obtain the courses which deal with the particular specialty. The colleges and universities however have been gradually attempting to meet this demand.

"Teachers licensed since 1920. These qualified on the basis of: (a) Written examination, (b) At least three years of experience in the regular classes, (c) Excellent record, (d) Courses, 120 hours, (e) Oral examination."

Outside of New York City the State Board of Regents requires that the teachers must have the following minimum qualifications:

#### A. FOR THE ELEMENTARY GRADES

1. Hold a diploma from a New York State normal school or its equivalent which course included work in the field of the particular kind of special class supervision and instruction in which it is sought permission to teach,

OR

2. Hold a license valid to teach in the elementary grades in this State and have had in addition at least one 6 weeks' course covering not less than 6 semester hours' work in the field of such special class instruction,

OR

3. Hold a license valid in the elementary grades in this State and have had not less than 1 year of successful experience as such special class instructor.

#### B. FOR THE HIGH SCHOOL GRADES

Hold a license valid to teach in the academic grades in this State and have had in addition the special training or experience specified in above numbered paragraphs 1 or 2 or 3.

The required training and experience in teaching a sight-saving class will not be accepted as qualifying to teach a class for the blind, nor will training and experience in teaching a class for the blind be accepted as qualifying to teach a sight-saving class.

## North Carolina

No school law authorizing the establishing of special classes.

Local communities may, however, organize such classes if they desire.

## North Dakota

No law providing for establishment of special classes.

## Ohio

The Ohio school law provides for the organization of special classes for deaf, blind, and crippled children.

Permission to establish is granted by the Director of Education who may arrange with any board of education to pay for the number of pupils meeting standards and restrictions. A district sending a child may pay tuition and transportation and, upon direction of Director of Education, *shall* pay.

Provision is made for the instruction of crippled children who cannot attend school to be instructed at home.

Each district certifies to the Director of Education the number of pupils who receive instruction in special classes and the amount expended for special appliances and for current operating cost of education, and also a statement showing the per capita cost of education of normal children.

"Sight-saving pupils were for some time classified as blind, to meet the terms of the state law. This was changed last session of the legislature. Children with partial vision now come under the law also.

"Teachers are appointed as other public school teachers, but must possess, in addition to the usual qualifications, such special training and equipment as the State Director of Education or the Board of Education may require. The state law provides for the appointment of a suitable person to inspect all special classes. The Director of Education prescribes standard requirements for all special classes.

"The state law provides that the state shall pay a per capita cost

in an amount not to exceed \$375 for educating the blind on the basis of a nine-months' school year. However, reimbursement is made at the discretion of the Director of Education. For the last two years reimbursement has been held not to exceed \$300 per capita for a nine-months' school year. This amount is in addition to that allowed by the local board of education for normally sighted children.

"The Ohio State Department of Education has special leaflets printed giving the complete law."

## **Oklahoma**

No special classes provided by law.

Any district, however, may organize special classes.

## **Oregon**

No special classes are provided for by law, and the State Superintendent writes that no city is authorized under the general school law to provide for such classes.

## **Pennsylvania**

Chapter 46 of the Laws of 1925 provides:

"On or before the first day of October of each year, the secretary of the board of school directors in each district in which special education for physically or mentally handicapped children is provided shall make such reports in regard to such special education maintained during the previous school year, and that for which the approval of the State Council of Education for the current year is desired, as may be required by the Department of Public Instruction. When any child between the ages of six (6) and twenty-one (21) years of age resident in this Commonwealth, who is blind or deaf, is enrolled, with the approval of the Department of Public Instruction, as a pupil in any of the schools or institutions for the blind or deaf, under the supervision of and approved by the Department of Public Instruction, the school district in which such child is resident shall pay twenty-five per centum (25%) of the cost of tuition and maintenance of such child in such school or institution, as determined by the Department of Public Instruction; and for the tuition and maintenance of such children the Commonwealth shall pay, out of funds appropriated to the department for special education, seventy-five per centum (75%) of the cost of their tuition and maintenance, as determined by the department. When any person less than six (6) or more than twenty-one (21) years of age resident in this Commonwealth, who is blind or deaf, is enrolled, with the approval of the

Department of Public Instruction, as a pupil in any of the schools or institutions for the blind or deaf, under the supervision of and approved by the Department of Public Instruction, the Commonwealth shall pay to such school or institution, out of moneys appropriated to the department for special education, the cost of tuition and maintenance of such person, as determined by the Department of Public Instruction. To facilitate payments by the several school districts, to the schools or institutions in which deaf or blind children are enrolled, of amounts due by such districts for their proportion of the cost of tuition and maintenance of such children, the Superintendent of Public Instruction shall withhold, from any moneys due to such districts out of any State appropriation for the assistance as reimbursement of school districts, the amounts due by such districts to such schools or institutions for the blind or the deaf, and amounts so withheld shall be paid to such schools or institutions by warrant of the Auditor General upon the State Treasurer, after requisition of the Superintendent of Public Instruction, for which purpose all amounts so withheld are hereby specifically appropriated to the Department of Public Instruction. Payments of the Commonwealth's proportion of the cost of tuition and maintenance of blind or deaf pupils enrolled in schools or institutions for the blind or for the deaf, as hereinbefore provided, shall be made quarterly out of moneys appropriated to the Department of Public Instruction for special education, by warrant of the Auditor General upon the State Treasurer, after requisition by the Superintendent of Public Instruction. For the purpose of enabling the Department of Public Instruction to determine from time to time what amounts are due to schools for the blind or for the deaf hereunder, such schools shall forward to the department, at such times and in such form as the department shall prescribe, sworn statements setting forth the names, ages, and residences of all pupils enrolled hereunder, specifying the school districts liable for a part of the cost of tuition and maintenance of any such pupils, the per capita cost of and maintenance of pupils, and such other information as the department shall require."

APPROVED—The 26th day of March, A. D. 1925.

GIFFORD PINCHOT.

Chapter 50 of the Laws of 1925, in arranging for the salaries of teachers, provides

"That for each full-time teacher of a special class, and for each full-time supervisor or principal of special schools or classes organized by any school district and approved under legislation providing for the special education of physically or mentally handicapped pupils, there shall be paid to the district, in addition to other payments

herein provided, sums as follows: To districts of the first class, twenty-five per centum (25%), and to other districts, thirty per centum (30%) of the minimum salary respectively prescribed herein for elementary teachers in such respective districts; and for each part-time teacher, supervisor, or principal employed in approved special education, a fraction of such amounts proportional to the time for which such person is employed; and provided further, that the total amount paid to any school district on account of any such teacher, supervisor, or principal employed in special education shall not exceed eighty per centum (80%) of the salary actually paid to such person."

Chapter 49 of the Laws of 1925 provides that

"Every parent, guardian, or other person in this Commonwealth having control or charge of any child between the ages of six and sixteen years who is deaf or blind, or is so crippled, or whose hearing or vision is so defective as to make it impracticable to have such child educated in the public schools of the district in which he is a resident, shall allow such child to be sent to some school where proper provision is made for the education of the deaf, or of the blind, or of crippled children, or shall provide for the tuition of such child by a legally certified private tutor."

To summarize, the Legislature of 1925 put the program of special classes on a substantial basis by making appropriations for (1) subsidy to school districts for special education in special classes, and (2) payment of the State's share of the tuition and maintenance of blind or deaf pupils in residential schools.

*Qualifications of Teachers:* To be approved for special state aid, special classes in the public schools must be taught by persons holding a special class teacher's certificate. Requirements for the standard certificate and partial certificate are set forth in a special pamphlet issued by the State Department. In addition to the usual requirements there must be special professional preparation in the particular field which is to be taught.

## **Rhode Island**

No legislation dealing with special classes.

No legal obstacle to the establishment by a local school committee.

## **South Carolina**

No special classes provided.

Local districts are authorized by General School Law to establish special classes.

## **South Dakota**

No state law providing for special classes.

## **Tennessee**

No provision for special classes of any kind.

Local districts may establish special classes under the general law.

## **Texas**

No state act providing for special classes.

## **Utah**

No law for special classes, but nothing in the Utah school law which prohibits their establishment. No rules and regulations have been formulated by the State Department of Public Instruction.

## **Vermont**

No state law provides for the establishment of special classes. However, local districts have authority to establish them under the general act.

## **Virginia**

No special act. However, general law provides for the establishment of special classes without designating the precise specialty.

Cities may establish classes for children of defective vision and any county may likewise establish similar classes.

## **Washington**

“Every board of directors of a school district of the first class shall, in addition to the general powers enumerated in chapter XVII(XV) of this title have the power . . . . to adopt and enforce such rules and regulations as may be deemed essential to the well being of the schools, and to establish and maintain such grades and departments, including night, high, kindergarten, manual training and industrial schools and schools and departments for the education and training of any class or classes of defective youth, as shall, in the judgment of the board, best promote the interests of education in that district. . . . ”



The State allows the special classes five times the amount which is given pro rata to the school districts for the normal child. This amount equals about fourteen cents per diem. The special classes, therefore, receive about seventy cents per diem for every day's attendance. In addition the counties allow amounts ranging from seven to nine cents per diem for every day's attendance.

## **West Virginia**

No legislation providing for the establishment of special classes; nothing in the law prohibiting the establishment of such classes.

## **Wisconsin**

*Section 41.035* provides in general terms for the establishment of special classes for exceptional pupils, and also provides for the appointment of a state supervisor for this work.

*Section 41.01* provides specifically for the establishment of day school classes for the deaf or blind. (Children with partial vision are considered for the purposes of classification as blind.)

*Section 41.02* provides for the compulsory attendance of the children eligible for classes for the blind or deaf.

*Section 20.32* provides for a fund not to exceed \$145,000 for the instruction of deaf persons, or persons with defective speech, or for the instruction of blind persons. It provides that a sum not to exceed \$250 shall be apportioned to any resident of a district attending these classes, and for each person a resident of the state but outside the district the sum of \$400.

## **Wyoming**

Special classes of all kinds are provided for under the Wyoming state law.

So far no sight-saving classes have been established.

## APPENDIX B

### Equipment for Serving Hot Lunches

Equipment needed in sight-saving classes where there are no facilities for serving a hot lunch:

Individual plates

Soup bowls

Glasses

Sauce dishes

Sugar bowl

One large pitcher

Two salt shakers

One dozen each:

Knives

Forks

Teaspoons

Dessertspoons

One large stew pan

One large double boiler

One bread knife

Two vegetable knives

One large spoon

One dish pan

One dish drainer

One can opener

Two dish mops

One dozen tea towels

Paper napkins

Soap















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Cleveland, Board of

AUTHOR

TITLE

DATE  
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BORROWER'S NAME

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